



BLUE ROCK
ENVIRONMENTAL, INC.

FILE COPY

Mr. Mark Verhey
Humboldt County Health Department
Division of Environmental Health
100 H Street, Suite 100
Eureka, California 95501

February 3, 2006

Re: **Site Closure Evaluation**
Former Central BP Station
2160 Central Avenue
McKinleyville, California
LOP # 12692
Blue Rock Project No. NC-24

Dear Mr. Verhey,

This report presents a site closure evaluation for the property at 2160 Central Ave, McKinleyville Humboldt County, California (site) (Figure 1), and was prepared for the Louise Pierson Revocable Trust by Blue Rock Environmental, Inc. (Blue Rock).

Background

Site Description

The former Central BP Service Station is located in the unincorporated town of McKinleyville, California (Figure 1). The flat lying and gravel-surfaced site is approximately 0.5 acre in size. All former service station structures have been removed. Surrounding property is predominantly commercial. The site is approximately 150 feet above mean sea level.

Site History

The Louise Pierson Trust has owned the property since 1956. A service station was constructed on the site in 1959. The original station included one 1,000-gallon waste oil, two 5,000-gallon gasoline, and one 10,000-gallon gasoline underground storage tanks (USTs). In 1972, the station was remodeled. During the remodel, the 1,000-gallon waste oil tank was moved about 15 feet west, and an additional 2,000-gallon gasoline UST was installed on the west side of the existing gasoline USTs.

Site Investigation and Corrective Action History

On November 29, 1990, the waste oil tank and the 2,000-gallon UST were removed from the site. In August 1991, SHN Consulting Engineers reportedly excavated approximately 40 cubic yards of impacted soil from the 2,000 gallon UST location. Subsequent soil analysis detected low levels of petroleum hydrocarbons.

In August, 1998, Clearwater Group (Clearwater) observed Albers Construction of Eureka, California remove the remaining 5,000 gallon and 10,000 gallon USTs and overexcavate approximately 340 cubic yards of petroleum-contaminated soil from the excavation. In addition, approximately 200 cubic yards of contaminated tank bedding was removed, remediated on site,

and backfilled into the excavation per HCDEH approval. Samples collected from the floor and sidewalls of the excavation detected gasoline-range hydrocarbons in five of the eight samples.

In order to initially evaluate the extent of groundwater contamination near the former UST site, Clearwater drilled four soil borings (B-1 to B-4) and installed three groundwater monitoring wells (MW-1, MW-2, and MW-3) in July 1999 and implemented a quarterly groundwater monitoring program (Figure 2). Analysis of groundwater samples collected during this phase of work confirmed the presence of dissolved phase petroleum hydrocarbons in site groundwater.

Clearwater supervised the drilling of nine soil borings on August 31, 2000 according to Clearwater's *Expanded Subsurface Investigation Workplan* dated March 15, 2000 and monitoring wells were constructed in four of these borings (MW-4 through MW-7 as shown in Figure 2). The purpose of this phase of work was to evaluate the lateral and vertical extent of petroleum hydrocarbon contamination in subsurface soil and groundwater. Petroleum hydrocarbon contamination was detected in soil and groundwater at the eastern property line in the vicinity of the former pump islands and south of the former UST complex. Data collected from this investigation is presented in Clearwater's *Subsurface Investigation and First Quarterly Monitoring Report Third Quarter 2000* dated October 23, 2000.

On August 6 and 7, 2001, Clearwater supervised the drilling and installation of five additional monitoring wells associated with the subject property: MW-8, MW-9, MW-10, MW-11 and MW-12 (Figure 2). These monitoring wells were placed in locations to further assess the offsite hydrocarbon contamination associated with the UST release. Data collected during this phase of investigation is presented in Clearwater's *Subsurface Investigation and First Quarterly Monitoring Report Third Quarter 2001* dated October 16, 2001.

In a letter dated November 27, 2001, the HCDEH requested the preparation of a *Corrective Action Plan* (CAP). Clearwater subsequently submitted a CAP dated March 11, 2002 which proposed soil vapor extraction pilot testing. In a letter dated August 6, 2002, the HCDEH requested additional work (soil texture analysis) and a response to comments contained in the referenced letter. Clearwater subsequently responded to the HCDEH letter dated August 6, 2002 in the *Quarterly Groundwater Monitoring Report Third Quarter 2002 and Response to HCDEH letter dated August 6, 2002* dated September 18, 2002.

In a letter dated October 28, 2002, the HCDEH requested an implementation schedule designed to verify the material types in the upper 15 feet bgs. Clearwater subsequently submitted a *Workplan / Implementation Schedule for Verification of Material Types in the Upper 15 feet Below Ground Surface Onsite* dated November 18, 2002.

On January 30, 2003, Clearwater supervised the drilling of three soil borings (SVB-1 through SVB-3) (Figure 2). These soil borings were placed in locations to confirm the soil types previously logged in the field, through testing of samples by standardized geotechnical laboratory procedures, in the vicinity of former borings MW-7, B-2 and B-4 per Clearwater's Workplan dated November 18, 2002. Results of this investigation were presented in Clearwater's *Quarterly Groundwater Monitoring Report First Quarter 2003 and Results of Soil Texture Investigation* dated March 7, 2003. In a letter dated April 17, 2003 the HCDEH concurred with the recommendation to perform a soil vapor extraction pilot study.

Clearwater performed soil vapor extraction testing at the site on July 28, 2003 and subsequently prepared and submitted a *Remedial Action Plan* (RAP) dated September 3, 2003. The RAP, which provided details for the installation of the proposed remedial action (soil vapor extraction / air sparge) was approved by the HCDEH in a letter dated September 8, 2003.

In September 2003, Clearwater supervised the installation of five vapor extraction wells (VEW-1 to VEW-5) and six air sparge wells (SW-1 to SW-6) (Figure 2). Due to North Coast Unified Air Quality Management District (NCUAQMD) requirements, installation of the proposed SVE system was postponed until spring 2004.

In April 2004, Clearwater supervised Sustainable Technologies of Alameda, California install the SVE / Air Sparge system. System installation consisted of installation of piping, electricity, and installation of the catalytic oxidizer.

In June 2004, the Louise Pierson Trust retained Blue Rock to continue site work. The SVE / Air Sparge system became operational in June 2004.

Cumulative soil sample data, groundwater sample/monitoring data, and well construction data are included as Tables 1, 2, 3, and 4.

Summary of Hydrogeology and Contamination

Hydrogeology

The subject site is situated on uplands north of Humboldt Bay approximately 150 feet above mean sea level and is located approximately one mile east of the Pacific Ocean. Surface water drains to the north towards Widow White Creek. The site is underlain by Pleistocene age fluvial sediments of the Hookton Formation.

Cumulative investigation has indicated that the subsurface is composed primarily of material classified as silty or clayey sands (SM - SC) to depths ranging from approximately 5 to 25 feet bgs, based on previous laboratory analysis for particle size analysis. Additionally, material classified as organic soil (OL-OH) and elastic silt (MH-ML) have been observed at depths ranging from approximately 2 to 5 feet bgs. Site cross sections are presented in Figures 2a and 2b.

Strata in the cross-sections were generalized based previous inconsistent logging data indicating significantly different soil textures at the same depths in borings separated by less than 10 feet (i.e. B-2 and SVB-2). This inconsistency is attributed to the variations between the individuals logging each boring. Construction of the cross-sections in strict adherence with individual boring log descriptions would result in a geologically implausible arrangement of strata. Particle size analysis of soils samples from 5, 10, and 15 feet bgs from borings SVB-1, SVB-2, and SVB-3 revealed the textures that were consistent with SM - SC. Therefore, the majority of the subsurface below 5 feet bgs is interpreted to range from SM to SC. Boring logs are presented in Appendix A.

Groundwater is present in unconfined conditions beneath the site at depths of approximately 10 to 20 feet bgs with seasonal depth to water fluctuations of approximately 10 feet. The direction of groundwater flow historically has ranged from the northwest, north, to northeast, to east-southeast at gradients ranging from approximately 0.017 ft/ft to 0.05 ft/ft (Figure 3).

Based on field observations and literature values, the average hydraulic conductivity of the water bearing silty or clayey sand (SM - SC) unit is likely on the order of 10^{-4} cm/s (Freeze and Cherry 1979).

Contaminants of Concern

Historical soil and groundwater sample analytical data indicate that gasoline and diesel range hydrocarbons (TPHg, TPHd, BTEX and MTBE) are the contaminants of concern beneath the site (Tables 1, 2, and 3).

Pre-Remedial Sorbed-Phase Contamination

Prior to the implementation of SVE / air sparge operations at the site, historic investigation data indicated the presence of one general area of soil contamination beneath the site (Figure 4). This area appeared to extend around, and beneath, the former excavation limits and former fuel dispenser at TPHg concentrations ranging up to 12,900 mg/kg and TPHd concentrations ranging to 1,439 mg/kg with a combined area of approximately 6,860 ft².

Based on cumulative soil analytical data presented prior to the initiation of remedial activities, the estimated average residual TPHg concentrations in soil were approximately 1,224 mg/kg. The resulting estimate of residual sorbed-phase TPHg mass was approximately 11,284 lbs (Appendix B).

Dissolved-Phase Contamination

Historical investigation data indicate that the maximum pre-remedial dissolved-phase contaminant concentrations were TPHg 931,000 µg/L, TPHd 35,000 µg/L, benzene 37,800 µg/L, and MTBE 2,130 µg/L. At the start of active remediation in June 2004, the dissolved-phase TPHg plume, defined as TPHg > 100 µg/L, had the dimension of approximately 200 ft long by 125 ft wide. See Tables 2 and 3 for historical groundwater sampling data, and Appendix D for TPHg plume dimensions in June 2004.

The most recent sampling data from December 2005 indicate that both the maximum dissolved-phase contaminant concentrations and plume extent have decreased dramatically since

remediation was initiated in June 2004. In December 2005, the maximum dissolved-phase contaminant concentrations were TPHg 11,000 µg/L, TPHd <600 µg/L, benzene 51 µg/L, and MTBE <4 µg/L. And, in December 2005, the dissolved-phase TPHg plume had the dimension of approximately 80 ft long by 75 ft wide. See Figure 5 for December 2005 groundwater sampling data.

Summary of Remedial System Operations

Soil Vapor Extraction

The soil vapor extraction system design includes six wells plumbed for vapor extraction VEW-1 to VEW-6 (Figure 6a, 6b & 7). To maximize effectiveness the vapor wells were placed in areas of the greatest known soil impact (Table 1, Figures 2a & 2b). The remediation system was constructed in April 2004 in accordance with Clearwater's *RAP* dated September 3, 2003. The system was tested on July 6 through July 9, 2004 for initial compliance according to the North Coast Unified Air Quality Management District (NCUAQMD) authority to construct (ATC) permit #NAC-380. Tables 5 through 8 present influent and effluent sample analytical data, SVE system operational data and recovery calculations, NCUAQMD compliance data and emissions calculations.

Operational Data

• Monitoring Initiation:	System was started on July 6, 2004
• Period of Operation:	July 6, 2004 to present
• Monitoring Dates:	Monthly since August 2004
• Total Operational Hours:	9,271 hours to date
• Average influent air flow rate:	212 scfm
• Average influent air TPHg:	1,774 mg/m ³
• Average effluent air TPHg:	<20 mg/m ³
• Average Destruction efficiency:	>97 %
• Average TPHg recovery rate:	32 lbs/day
• Total TPHg recovery:	12,201 lbs to date
• Operating wells:	VEW-3 through VEW-6
• Analytes tested:	TPHg, BTEX, MTBE
• Analytical methods:	EPA Method 8260B
• Laboratory:	Kiff Analytical LLC, Davis, California

Air Sparge System

The air sparge injection system design includes five wells plumbed for sparging: SW-1 to SW-6 (Figure 8). The air sparge system was constructed in April 2004.

Operational Data

• Startup date:	Started on December 1, 2004
• Operational time:	On 24 hrs/day, 7 days/week; off with SVE shut-down
• Injection air flow rate:	Approximately 7 to 8 scfm

The air sparge system was started following the installation of interlocks between the SVE and Sparge systems in early December 2004. The sparge system was subsequently shut down in mid

December due to the added influent hydrocarbon concentrations originating from sparge system operation causing the system to shut down. When influent concentrations from SVE system operation began to diminish, the sparge system was restarted to remediate residual dissolved hydrocarbons.

In August 2005, the original 3-hp sparge pump had worn to the point that it no longer could pump a sufficient amount of air into the ground to produce a remedial effect. That pump was subsequently replaced with a 7.5-hp pump in an effort to resume effective groundwater remediation through air sparging. Additionally, the larger sparge pump has increased the rate of air flow into the subsurface thus increasing volatilization (stripping) of dissolved-phase hydrocarbons from dissolved phase to vapor phase for recovery through the catalytic oxidizer. Additionally, through operation of the sparge system, dissolved oxygen (DO) concentrations in site monitoring wells have increased to levels ranging as high as 10.08 mg/L. These increased DO concentrations in groundwater provide a positive environment for the proliferation of indigenous aerobic hydrocarbon degrading microbes in the subsurface.

Summary of Evidence Supporting Site Remediation and Closure

Sorbed-Phase Mass Estimated vs. Mass Recovered

The pre-remediation sorbed-phase TPHg mass was estimated at 11,284 lbs. It should be recognized that sorbed-phase mass calculations are general estimates and vary due to vagaries in sample analyses and interpolation. Experience suggests that the calculated sorbed-phase mass tends to be on the low side versus that calculated to be recovered through active remediation. At this site, operation of the SVE system from June 2004 through January 2006 has resulted in an estimated TPHg recovery of 12,201 lbs. This indicates that the SVE system has removed a significant portion of the TPHg mass in soil. Continued operation of the SVE system will recover low to non-detectable concentrations of TPHg in the vapor-phase that have partitioned from both the sorbed- and dissolved-phase. However, it appears that a significant amount of sorbed-phase TPHg, and other gasoline compounds and additives, has already been recovered from the subsurface of the site.

Potential for Plume Migration vs. Observed Plume Migration

Based on quarterly groundwater gradient and monitoring data collected historically, Blue Rock evaluated the potential for plume migration in groundwater versus actual conditions observed at the site.

Groundwater flow direction has ranged from the northwest, north, northwest, to east-southeast with gradients ranging from approximately 0.003 ft/ft to 0.03 ft/ft. Groundwater gradient was calculated based on static water level data collected during the last seven quarterly groundwater monitoring events conducted.

The approximate hydraulic conductivity for the silty-clayey sand unit (SM-SC), the water-bearing material, is 0.28 ft/day (10^{-4} cm/s) and the porosity is assumed to be 35% (Freeze and Cherry, 1979).

In order to estimate potential for plume migration via advection, Blue Rock calculated the groundwater seepage velocity for the SM-SC unit using the parameters presented above in the following equation according to Darcy's Law:

Calculation of Seepage Velocity for the SM-SC Unit

$$V_s = Ki/n$$

$$V_s = \frac{(0.28 \text{ ft/day}) (0.03 \text{ ft/ft})}{0.35}$$

$$V_s = 0.024 \text{ ft/day}$$

Where:

V_s = seepage velocity

K (SM-SC) = hydraulic conductivity = 0.28 ft/day (literature value)

i = gradient = 0.03 ft/ft (the max. observed at the site)

n = porosity = assumed 35% (literature value)

Based on the calculations above, the maximum estimated seepage velocity for groundwater in the SM-SC material is approximately 0.024 feet/day. The first set of USTs were removed in 1990, and petroleum impacts were detected in soil from those tank beds. Therefore, 1990 can be used as a conservative start date for potential plume migration, although it is likely longer since the contamination below those tanks obviously pre-dated their removal. The potential distance of plume transport can be estimated by multiplying the seepage velocity by the travel time (i.e. 1990 to 2005):

Calculation of Potential Plume Migration in the SM-SC Unit from 1990 to 2005

$$D_p = V_s * T$$

$$D_p = 0.024 \text{ ft/day} * 5,475 \text{ days}$$

$$D_p = 131 \text{ ft}$$

Where:

D_p = distance of potential plume migration

V_s = seepage velocity = 0.024 ft/day (see calculation above)

T = 15 years = 5,475 days

The predicted distance of plume migration is 131 ft; however, this distance should be viewed as a minimum because the fuel release undoubtedly occurred before the first soil contamination was detected in 1990, thus increasing the overall travel time.

The shape and size of the known plume was contrasted with the predicted 131 feet downgradient migration predicted above. Wells MW-4 (40 feet northwest of the former USTs) and MW-10 (108 feet east of the USTs) have both been free of gasoline impact and are located within the predicted 131-ft travel distance. This suggests that that migration of the plume in these directions is being inhibited. Empirical data suggest that the greatest amount of plume migration occurred in the north-northeast direction, as indicated by low levels of detectable contaminants in MW-12 (80 feet north-northeast direction). However, MW-11 (165 feet northeast of the former USTs) defines the downgradient extent of the plume in that direction.

This evaluation shows that the plume did not migrate as far as predicted, in two of the three potential directions for migration. This suggests that natural attenuation processes, possibly including dilution, dispersion, volatilization, adsorption, and chemical and/or biological degradation have been inhibiting the migration of the dissolved-phase plume. This is further corroborated by the observed declining and/or non-detect concentrations of target analytes in groundwater samples collected from site monitoring wells. It is likely that a combination of these natural attenuation processes are occurring within the plume which appear to be limiting significant downgradient migration of dissolved-phase petroleum hydrocarbons in groundwater.

Dissolved-Phase Contaminant First-Order Decay Rates

Concentrations of dissolved-phase gasoline range hydrocarbons in MW-5 and MW-7 have decreased consistently since operation of the SVE / Sparge system began in June 2004. The following section discusses current first order decay rate data.

Concentrations of TPHg for well MW-5 and MW-7 were plotted against time since the initiation of remediation at the site (Charts 1 and 2) and since the initial groundwater monitoring event in September 2000 (Charts 3 and 4). Concentrations of benzene in MW-7 were also plotted for the same time periods (Charts 5 and 6). An exponential curve was fitted to each plot (Appendix C). The method presented by Buscheck, O'Reilly, and Nelson (1993) was used to calculate first-order decay rates by the following equation:

$$C(t) = C_0 e^{-(kt)}$$

Where,

$C(t)$ is concentration as a function of time (t)

C_0 = is concentration as $t = 0$

k = is the decay rate (t^{-1})

During the most recent quarterly groundwater monitoring event, as displayed in Chart 1 and Chart 2, the TPHg first-order decay rate since remediation began at MW-5 was 0.01 day^{-1} and first order decay rate for TPHg at MW-7 was 0.004 day^{-1} . As displayed in Charts 3 and 4, the first-order decay rate at MW-7 and MW-5 for TPHg since groundwater monitoring began were 0.0012 day^{-1} and 0.002 day^{-1} respectively. Additionally, as displayed in Charts 5 and 6, the first-order decay rate at MW-7 for benzene since the initiation of remedial activities and groundwater monitoring began was 0.0023 day^{-1} and 0.0026 day^{-1} respectively. The first-order decay rates calculated for target analytes in selected monitoring wells correlate with the lower end of

published values, which typically range from 0.001 day^{-1} to 0.01 day^{-1} (Buscheck, O'Reilly, and Nelson 1993).

Observed Dissolved-Phase TPHg Mass Reduction

Blue Rock estimated the dissolved-phase TPHg masses for each quarterly monitoring event since initiation of SVE system operation in June 2004 in order to evaluate temporal trends of this parameter. These monitoring events included June 2004, September 2004, December 2004, March 2005, June 2005, September 2005, and December 2005. The dissolved-phase plume masses were estimated based on areal extent of the TPHg plume, estimated plume thickness, assumed soil porosity of 35%, and concentrations specific to each monitoring event. A graphical representation of the model used to calculate dissolved-phase TPHg mass and associated spreadsheet calculations are included in Appendix D. The following dissolved-phase TPHg masses were calculated:

<u>Date</u>	<u>Dissolved-Phase TPHg (lbs)</u>
June 2004	135
September 2004	126
December 2004	86
March 2005	22
June 2005	19
September 2005	7.6
December 2005	4.6

Based on these calculations, the dissolved-phase mass of TPHg has been reduced by approximately 96% since remedial operations began. In order to calculate the rate of dissolved-phase mass reduction, the TPHg masses were plotted against time and an exponential curve was fit to the data in the same manner as first-order decay-rates calculated above (Chart 7). The resulting dissolved-phase TPHg mass decay rate is -0.0067 day^{-1} . This value falls in between the first-order decay rates calculated for TPHg at individual wells discussed above.

Estimate of Time to Reach Water Quality Goals

The exponential first-order decay rates for TPHg in MW-5 and MW-7 since remedial operations began in June 2004 (Chart 1 and Chart 2) and for TPHg in MW-7 and MW-5 since groundwater monitoring began in September 2000 (Chart 3 and Chart 4) were used to predict when groundwater quality goals would be reached. It should be noted that concentrations of dissolved-phase gasoline range hydrocarbons in MW-5 have met water quality goals.

Using the trend line calculations as shown in Chart 2, it appears that TPHg concentrations in groundwater will reach water quality goals (i.e. $\text{TPHg} < 50 \mu\text{g/L}$) by approximately 2010 based on the trendline for MW-7 (this estimate is based on monitoring data since remediation began and is less conservative). Based on the trendline calculations shown in Chart 3, it appears TPHg concentrations in groundwater will reach water quality goals by approximately 2018 based on the trendline for MW-7 (this estimate is based on all monitoring data and is more conservative). Based on the two calculations it is reasonable to forecast that the time when water quality goals

will be met for dissolved phase TPHg contaminants in MW-7 fall between these two estimates. Thus it is likely that water quality goals for TPHg in MW-7 will be met by approximately 2014.

Like the calculation for TPHg above, concentrations of dissolved phase benzene were plotted against time for the two periods noted above (Charts 5 and 6). Based on the trendlines presented in these charts, it appears that concentrations of dissolved phase benzene in MW-7 will reach water quality goals by approximately 2012 (Appendix C).

Additionally, it should be noted that the residual dissolved-phase plume is stable and/or receding with no significant migration. This has been evidenced by declining and/or non-detect concentrations of target analytes in previously impacted monitoring points in addition to concentrations of target analytes below, or just slightly above, laboratory detection limits in downgradient and cross gradient monitoring points for the duration of the quarterly groundwater monitoring program.

No Sensitive Receptors Appear Threatened

In January 2002, a sensitive receptor survey was conducted by Clearwater and submitted in a report dated January 28, 2002. Clearwater visited the site as well, as the search area, to identify bodies of surface water, wetlands, and schools and to map underground utilities adjacent to the site. Clearwater searched HCDEH and DWR well records to identify well locations. Clearwater also reviewed McKinleyville Community Services District Engineering plans to evaluate locations and depths of any underground utilities near the site. The sensitive receptor reported by Clearwater is presented below.

The area surrounding the site is comprised of mixed residential, commercial, and rural use. All homes and businesses in the search area are supplied by public water utilities. Searches of DWR and HCDEH well records found 10 water wells within the search area. The nearest down-gradient well (well #3) is approximately 900 feet north of the site. Table 9 contains a list of water wells found in the search area. No surface water bodies lie within the search area. No basements were found within the search area.

Underground utilities were located by Underground Services Alert. Utility trench locations were verified through conversations with McKinleyville Community Services District public works personnel and review of McKinleyville Community Services District utility maps. Buried utilities near the site include one eight-inch and one two-inch pressurized water line, one cable line, one electric line, one gas line, one storm drain line, and one eight-inch sanitary sewer line. The locations of these subsurface utilities are outside of the historic plume area and do not appear to be acting as preferential subsurface migratory pathways.

McKinleyville Middle School is located approximately 750 feet northeast of the site. No other potential sensitive receptors were identified in Clearwater's survey.

Based on the results of the survey, it does not appear that any sensitive receptors are threatened by the existing conditions at the site and no nearby utilities appear to be serving as preferential pathways.

Summary and Conclusions

Cumulative investigation has indicated that the subsurface is composed primarily of material classified as silty or clayey sands (SM - SC) to depths ranging from approximately 5 to 25 feet bgs. Additionally, material classified as organic soil (OL-OH) and elastic silt (MH-ML) have been observed at depths ranging from approximately 2 to 5 feet bgs. Site cross sections are presented in Figures 2a and 2b. Boring logs are presented in Appendix A.

Groundwater is present in unconfined conditions beneath the site at depths of approximately 10 to 20 feet bgs with seasonal depth to water fluctuations of approximately 10 feet. The direction of groundwater flow historically has ranged from the northwest, north, to northeast, to east-southeast at gradients ranging from approximately 0.017 ft/ft to 0.05 ft/ft (Table 3, Figure 3).

Historic cumulative soil and groundwater sample analytical data indicate that diesel and gasoline range hydrocarbons TPHd, TPHg, BTEX and MTBE are the contaminants of concern beneath the site (Tables 1, 2, and 3).

Based on cumulative soil analytical data presented prior to the initiation of remedial activities, the estimated average residual TPHg concentrations in soil were approximately 1,224 mg/kg. The resulting estimate of residual sorbed-phase TPHg mass was approximately 11,284 lbs (Appendix D). Since operation of the SVE/Air Sparge system was initiated in June 2004, an estimated 12,201 lbs of TPHg has been recovered from the subsurface (Table 6).

The residual dissolved-phase plume is stable and/or receding with no significant migration. This has been evidenced by declining and/or non-detect concentrations of target analytes in previously impacted monitoring points in addition to concentrations of target analytes below, or slightly above, laboratory detection limits in downgradient and cross-gradient monitoring points for the duration of the quarterly groundwater monitoring program. Although some residual sorbed-phase hydrocarbon contamination may present, the rate of natural attenuation processes appears greater than of partitioning of sorbed-phase hydrocarbons into dissolved-phase.

Since remediation began in June 2004, the estimated dissolved-phase TPHg mass has decreased from 135 lbs to 4.6 lbs. This represents approximately a 96% reduction in dissolved-phase TPHg mass since remedial operations began. The first-order decay rate of dissolved-phase TPHg mass since June 2004 is 0.0067 day^{-1} (Chart 7).

The first-order decay rates for TPHg in wells MW-5 and MW-7 since remediation began (June 2004) are 0.01 day^{-1} and 0.004 day^{-1} , respectively. The first-order decay rates for TPHg in wells MW-5 and MW-7 since monitoring began (September 2000) are 0.002 day^{-1} and 0.0012 day^{-1} , respectively. The first-order decay rate for benzene since remediation began (June 2004) is 0.0026 day^{-1} , and since monitoring began (September 2000) is 0.0026 day^{-1} .

The exponential first-order decay rates for TPHg and MTBE in MW-7 were used to predict when groundwater quality goals would be reached. Using the trend line calculations as shown in the two charts, it appears that TPHg concentrations in groundwater will reach water quality goals (i.e. TPHg <50 µg/L) by approximately 2014, with a range from 2010 (best scenario) to 2018 (worst scenario). Based on the first-order decay rates for benzene in MW-7, it appears that benzene will reach water quality goals by approximately 2010.

Based on the sensitive receptor survey performed by Clearwater, no impact to sensitive receptors is occurring. Based on the data presented in this report, no impact to sensitive receptors is likely to occur. The nearest downgradient domestic well is located approximately 900 feet north of the site (2331 Central Ave.). Further, buried utilities near the site do not appear to be acting as migratory pathways for contaminated groundwater.

Based on the data presented in this report, it appears that the SVE / air sparge system has remediated the site sufficiently and that residual dissolved phase hydrocarbons will continue to naturally attenuate to meet water quality goals within a reasonable time period. Discussions with the responsible party have indicated that this site is scheduled for redevelopment pending this site closure determination. Part of this development includes capping of the remaining uncapped plume area.

Recommendations

- Based on the data presented in this report, Blue Rock requests that this site be evaluated for regulatory closure.
- Once concurrence with site closure is received, a Contingency Plan should be prepared for the safe handling of potentially impacted soil and/or groundwater that may be encountered in the event subsurface work occurs in the plume area.
- Following concurrence with site closure, the 12 site monitoring wells and 11 remediation wells should be destroyed and the SVE sparge system including conveyance piping should be removed.

References

- Buscheck, T.E., O'Reilly, K.T., and Nelson, S.N. 1993. *Evaluation of Intrinsic Bioremediation at Field Sites*. Proceedings of the Conference of Petroleum Hydrocarbons and Organic Chemicals in Ground Water, National Groundwater Association/API, Houston, TX. November 10-12.
- Freeze, R.A. and Cherry, J.A. 1979. *Groundwater*. Prentice-Hall, Inc., Englewood Cliffs, NJ, 604 p.

Certification

This report was prepared under the supervision of a California Professional Geologist at Blue Rock. All statements, conclusions, and recommendations are based upon published results from past consultants, field observations by Blue Rock, and analyses performed by a state-certified laboratory as they relate to the time, location, and depth of points sampled by Blue Rock. Interpretation of data, including spatial distribution and temporal trends, are based on commonly used geologic and scientific principles. It is possible that interpretations, conclusions, and recommendations presented in this report may change, as additional data become available and/or regulations change.

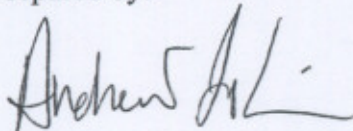
Information and interpretation presented herein are for the sole use of the client and regulating agency. The information and interpretation contained in this document should not be relied upon by a third party.

The service performed by Blue Rock has been conducted in a manner consistent with the level of care and skill ordinarily exercised by members of our profession currently practicing under similar conditions in the area of the site. No other warranty, expressed or implied, is made.

If you have any questions regarding this project, please contact us at (707) 441-1934.

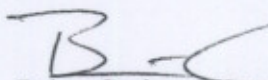
Sincerely,
Blue Rock Environmental, Inc.

Prepared by:

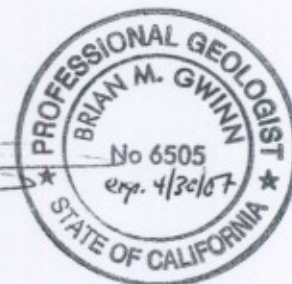


Andrew LoCicero
Project Scientist

Reviewed by:



Brian Gwinn, PG
Principal Geologist



Attachments

- Table 1: Cumulative Soil Analytical Data
- Table 2: Grab Groundwater Analytical Data
- Table 3: Groundwater Elevations and Analytical Results
- Table 4: Well Construction Details
- Table 5: SVE Air Sample Analytical Results
- Table 6: SVE Operational Data
- Table 7: SVE Catox System Treatment Data
- Table 8: SVE Catox Emissions Calculations
- Table 9: Domestic Wells Located Within the 1,000 Foot SRS Search Area
- Figure 1: Site location Map
- Figure 2: Site Plan
- Figure 2a: Cross Section A-A'
- Figure 2b: Cross Section B-B'
- Figure 3: Cumulative Flow Direction and Gradient 6/99 to 12/05
- Figure 4: Pre-Remedial Soil Analytical Data
- Figure 5: Dissolved-Phase Hydrocarbon (TPHg) Distribution 12/28/05
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- Appendix A: Boring Logs
- Appendix B: Mass Calculations for Sorbed Phase Contaminants (Pre Remediation)
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- Appendix D: Chart 7 Dissolved Phase Mass Vs. Time, Dissolved Phase Mass Calculations 6/04 to 12/05, Dissolved-Phase Hydrocarbon (TPHg) Distribution figures 6/04 to 9/05, model for calculating dissolved phase TPHg mass

Cc:

Mr. Greg Pierson, Louise Pierson Revocable Trust, 1200 W. Harris Street, Eureka, CA 95503

TABLES

Table 1
SOIL ANALYTICAL DATA
Former Central BP Station
2160 Central Ave.
McKinleyville, CA

Soil												
Sample ID	Depth (feet)	Sample Date	TPH _g (mg/kg)	TPH _d (mg/kg)	TPH _{mo} (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	MTBE (mg/kg)	DIPE (mg/kg)	TAME (mg/kg)
PI5-1	11	8/8/98	<1.0	--	--	<0.005	<0.005	<0.005	<0.005	<0.005	--	--
PI5-2	11	8/8/98	<1.0	--	--	<0.005	<0.005	<0.005	<0.005	<0.005	--	--
LS-3	11	8/8/98	<1.0	--	--	<0.005	<0.005	<0.005	<0.005	<0.005	--	--
LS-4	11	8/8/98	<1.0	--	--	<0.005	<0.005	<0.005	<0.005	<0.005	--	--
LS-5	11	8/8/98	3	--	--	<0.005	<0.005	<0.005	<0.005	<0.005	--	--
LS-6	11	8/8/98	<1.0	--	--	<0.005	<0.005	<0.005	<0.005	<0.005	--	--
LS-7	11	8/8/98	<1.0	--	--	<0.005	<0.005	<0.005	<0.005	<0.005	--	--
SP-1	11	8/8/98	<1.0	--	--	<0.005	<0.005	<0.005	<0.005	<0.005	--	--
SP-2	11	8/8/98	<1.0	--	--	<0.005	<0.005	<0.005	<0.005	<0.005	--	--
BS-1	11	8/6/98	2,300	--	--	<0.50	7.0	38	240	<0.50	--	--
BS-2	11	8/6/98	160	--	--	<0.05	0.35	0.21	1.0	<0.05	--	--
BS-3	11	8/6/98	1,200	--	--	<0.20	1.5	9.8	54	<0.20	--	--
BS-4	11	8/6/98	130	--	--	<0.05	0.26	0.44	1.6	<0.05	--	--
BS-5	11	8/6/98	<1.0	--	--	<0.005	<0.005	<0.005	<0.005	<0.005	--	--
Tank Removal												
SW-10	S. Side @ 6'	8/8/98	5,300	--	--	<0.0050	<0.0050	3.3	72	<0.050	--	--
SW-11	S. Side @ 14'	8/8/98	<1.0	--	--	<0.0050	<0.0050	2	9.5	<0.050	--	--
SW-12	W. Side @ 6'	8/8/98	<1.0	--	--	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	--	--
SW-13	W. Side @ 14'	8/8/98	220	--	--	0.14	<1.6	2	7.5	0.89	--	--
SW-14	N. Side @ 6'	8/8/98	<1.0	--	--	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	--	--
SW-15	N. Side @ 14'	8/8/98	<1.0	--	--	0.0071	0.0083	0.011	0.036	<0.050	--	--
SW-16	E. Side @ 6'	8/8/98	<1.0	--	--	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	--	--
SW-17	E. Side @ 14'	8/8/98	120	--	--	0.13	1.3	1.8	8.6	<0.050	--	--
Overexcavation												

Table 1
SOIL ANALYTICAL DATA
Former Central BP Station
2160 Central Ave.
McKinleyville, CA

Sample ID	Sample Depth (feet bgs)	Sample Date	Soil														
			TPHg (mg/Kg)	TPHd (mg/Kg)	TPHmo (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylenes (mg/Kg)	MTBE (mg/Kg)	DIPE (mg/Kg)	TAME (mg/Kg)	ETBE (mg/Kg)	TBA (mg/Kg)	Methanol (mg/Kg)	Ethanol (mg/Kg)	Total Lead (µg/g)
Site Investigation																	
B-1	5.5-6	7/19/99	<1.0	<1.0	<10	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--	--	--
B-1	10.5 - 11	7/19/99	<1.0	3.2	<10	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--	--	--
B-1	15.5 - 16	7/19/99	76	3.5	<10	<0.0025	0.75	0.76	4.1	<0.025	<0.10	<0.10	<0.10	<1.0	--	--	3.3
B-1	20.5 - 21	7/19/99	11	<1.0	<10	0.98	1.2	0.20	0.88	0.081	--	--	--	--	--	--	--
B-1	25.5 - 26	7/19/99	6.7	<1.0	<10	0.96	0.096	0.12	0.328	0.073	--	--	--	--	--	--	--
B-2	5.5 - 6	7/19/99	<1.0	<1.0	<10	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--	--	--
B-2	10.5 - 11	7/19/99	220	13	<10	<0.005	<0.005	0.21	1.56	<0.05	--	--	--	--	--	--	--
B-2	15.5 - 16	7/19/99	3200	18	11	19	160	52	285	<0.5	<2.0	<2.0	<2.0	<20	--	--	3.6
B-2	20.5 - 21	7/19/99	11	<1.0	<10	1.1	1.2	0.11	0.53	0.068	--	--	--	--	--	--	--
B-2	23.5 - 24	7/19/99	6.0	<1.0	<10	0.58	0.8	0.07	0.33	0.051	--	--	--	--	--	--	--
B-3	10.5 - 11	7/19/99	36	4.7	<10	<0.005	<0.005	<0.005	<0.005	0.051	--	--	--	--	--	--	--
B-3	15.5 - 16	7/19/99	7.2	<1.0	<10	0.170	0.430	0.084	0.460	<0.005	<0.020	<0.020	<0.020	<0.2	--	--	2.2
B-3	20.5 - 21	7/19/99	630	5.1	<10	<2.4	<2.8	4.4	28.1	<1.0	--	--	--	--	--	--	--
B-3	23.5 - 24	7/19/99	44	<1.0	<10	1.9	1.7	0.58	2.58	0.16	--	--	--	--	--	--	--
B-4	10.5 - 11	7/19/99	<1.0	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.05	--	--	--	--	--	--	--
B-4	15.5 - 16	7/19/99	24	<1.0	<1.0	<0.005	0.011	0.063	0.208	<0.005	<0.020	<0.020	<0.020	<0.2	--	--	3.1
B-4	20.5 - 21	7/19/99	<1.0	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.050	--	--	--	--	--	--	--
B-4	23.5 - 24	7/19/99	<1.0	<1.0	<1.0	<0.005	<0.005	<0.005	<0.005	<0.050	--	--	--	--	--	--	--
MW-1 (MS)	10	7/20/99	<1.0	<1.0	<10	<0.005	<0.005	<0.005	<0.005	<0.050	--	--	--	--	--	--	--
MW-1 (MS)	15	7/20/99	<1.0	<1.0	<10	<0.005	<0.005	<0.005	<0.005	<0.050	<0.02	<0.02	<0.02	<0.2	--	--	4.4
MW-1 (MS)	20	7/20/99	<1.0	<1.0	<10	<0.005	<0.005	0.0066	<0.005	<0.050	--	--	--	--	--	--	--
MW-1 (MS)	25	7/20/99	<1.0	1.2	<10	<0.005	<0.005	<0.005	<0.005	<0.050	--	--	--	--	--	--	--
MW-2 (MS)	11	7/20/99	<1.0	<1.0	<10	<0.005	<0.005	<0.005	<0.005	<0.050	--	--	--	--	--	--	--
MW-2 (MS)	15.5	7/20/99	<1.0	<1.0	<10	<0.005	<0.005	<0.005	<0.005	0.0063	<0.02	<0.02	<0.02	<0.2	--	--	2.2
MW-2 (MS)	20	7/20/99	<1.0	<1.0	<10	<0.005	<0.005	<0.005	<0.005	<0.050	--	--	--	--	--	--	--
MW-2 (MS)	25	7/20/99	<1.0	<1.0	<10	<0.005	0.0093	0.0076	0.0178	<0.050	--	--	--	--	--	--	--
MW-2 (MS)	6	7/20/99	<1.0	<1.0	<10	<0.005	<0.005	<0.005	<0.005	<0.050	--	--	--	--	--	--	--
MW-3 (MS)	10.5 - 11	7/20/99	<1.0	<1.0	<10	<0.005	<0.005	<0.005	<0.005	<0.050	--	--	--	--	--	--	--
MW-3 (MS)	15.5 - 16	7/20/99	<1.0	<1.0	<10	<0.005	<0.005	<0.005	<0.005	0.011	<0.02	<0.02	<0.02	<0.2	--	--	2.4
MW-3 (MS)	20.5 - 21	7/20/99	<1.0	<1.0	<10	<0.005	<0.005	<0.005	<0.005	<0.050	--	--	--	--	--	--	--
MW-3 (MS)	25.5 - 26	7/20/99	<1.0	<1.0	<10	<0.005	<0.005	<0.005	<0.005	<0.050	--	--	--	--	--	--	--
MW-3 (MS)	5.5 - 6	7/20/99	<1.0	<1.0	<10	<0.005	<0.005	<0.005	<0.005	<0.050	--	--	--	--	--	--	--

Table 1
SOIL ANALYTICAL DATA
Former Central BP Station
2160 Central Ave.
McKinleyville, CA

Sample			Soil														
Sample ID	Depth (feet)	Sample Date	TPHg (mg/Kg)	TPHd (mg/Kg)	TPHmo (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylenes (mg/Kg)	MTBE (mg/Kg)	DIPE (mg/Kg)	TAME (mg/Kg)	ETBE (mg/Kg)	TBA (mg/Kg)	Methanol (mg/Kg)	Ethanol (mg/Kg)	Total Lead (µg/g)
B-A	5	8/30/00	<0.06	<10	--	<0.005	<0.005	<0.005	<0.015	<0.005	<0.005	<0.005	<0.005	<5	--	--	--
B-A	10	8/30/00	<0.06	<10	--	<0.005	<0.005	<0.005	<0.015	<0.005	<0.005	<0.005	<0.005	<5	--	--	--
B-A	15	8/30/00	<0.06	<10	--	<0.005	<0.005	<0.005	<0.015	<0.005	<0.005	<0.005	<0.005	<5	--	--	--
B-A	20	8/30/00	<0.06	<10	--	<0.005	<0.005	<0.005	<0.015	<0.005	<0.005	<0.005	<0.005	<5	--	--	--
B-B	5	8/30/00	<0.06	<10	--	<0.005	<0.005	<0.005	<0.015	<0.005	<0.005	<0.005	<0.005	<5	--	--	--
B-B	10	8/30/00	<0.06	<10	--	<0.005	<0.005	<0.005	<0.015	<0.005	<0.005	<0.005	<0.005	<5	--	--	--
B-B	15	8/30/00	4,990	1,430	--	<0.075	6.01	46.2	131	<0.3	<0.075	<0.075	<0.075	<75	--	--	--
B-B	20	8/30/00	12,900	<10	--	0.072	0.908	0.216	0.935	0.01	<0.005	<0.005	<0.005	<5	--	--	--
B-C	5	8/30/00	<0.06	<10	--	<0.005	0.014	<0.005	0.036	<0.005	<0.005	<0.005	<0.005	<5	--	--	--
B-C	10	8/30/00	<0.06	<10	--	<0.005	0.007	<0.005	<0.015	<0.005	<0.005	<0.005	<0.005	<5	--	--	--
B-C	15	8/30/00	770	179	--	0.66	3.99	1.29	45.2	<0.025	<0.025	<0.025	<0.025	<25	--	--	--
B-C	20	8/30/00	0.133	<10	--	0.124	0.366	0.07	0.349	0.013	<0.005	<0.005	<0.005	<5	--	--	--
B-D (MW-7)	5	8/30/00	<0.06	<10	--	<0.005	<0.005	<0.005	<0.015	<0.005	<0.005	<0.005	<0.005	<5	--	--	--
B-D (MW-7)	10	8/30/00	380	376	--	<0.025	<0.025	1.2	5.99	<0.025	<0.025	<0.025	<0.025	<25	--	--	--
B-D (MW-7)	15	8/30/00	1,170	305	--	1.05	35.7	18.7	92.1	<0.075	<0.075	<0.075	<0.075	<25	--	--	--
B-D (MW-7)	20	8/30/00	0.204	<10	--	0.084	0.073	0.056	0.244	0.016	<0.005	<0.005	<0.005	<5	--	--	--
B-E	5	8/30/00	<0.06	<10	--	<0.005	<0.005	<0.005	<0.015	<0.005	<0.005	<0.005	<0.005	<5	--	--	--
B-E	10	8/30/00	<0.06	<10	--	<0.005	<0.005	<0.005	<0.015	<0.005	<0.005	<0.005	<0.005	<5	--	--	--
B-E	15	8/30/00	<0.06	<10	--	<0.005	<0.005	<0.005	<0.015	<0.005	<0.005	<0.005	<0.005	<5	--	--	--
B-E	20	8/30/00	0.096	<10	--	0.006	0.01	0.047	0.068	0.012	<0.005	<0.005	<0.005	<5	--	--	--
B-F	5	8/30/00	0.247	<10	--	<0.005	0.025	0.019	0.131	<0.005	<0.005	<0.005	<0.005	<5	--	--	--
B-F	10	8/30/00	<0.06	<10	--	<0.005	<0.005	<0.005	<0.015	<0.005	<0.005	<0.005	<0.005	<5	--	--	--
B-F	15	8/30/00	106	17	--	<0.005	0.406	0.579	3.53	<0.025	<0.025	<0.025	<0.025	<25	--	--	--
B-F	20	8/30/00	0.206	<10	--	0.306	0.494	0.051	0.349	0.022	<0.005	<0.005	<0.005	<5	--	--	--
B-G	5	8/30/00	<0.06	<10	--	<0.005	<0.005	<0.005	<0.015	<0.005	<0.005	<0.005	<0.005	<5	--	--	--
B-G	10	8/30/00	<0.06	<10	--	<0.005	<0.005	<0.005	<0.015	<0.005	<0.005	<0.005	<0.005	<5	--	--	--
B-G	15	8/30/00	<0.06	<10	--	<0.005	<0.005	<0.005	0.018	<0.005	<0.005	<0.005	<0.005	<5	--	--	--
B-G	20	8/30/00	<0.06	<10	--	<0.005	<0.005	0.017	0.054	<0.005	<0.005	0.011	<0.005	<5	--	--	--
B-H	5	8/30/00	<0.06	<10	--	<0.005	<0.005	<0.005	<0.015	<0.005	<0.005	<0.005	<0.005	<5	--	--	--
B-H	10	8/30/00	<0.06	<10	--	<0.005	<0.005	<0.005	<0.015	<0.005	<0.005	<0.005	<0.005	<5	--	--	--
B-H	15	8/30/00	<0.06	<10	--	0.015	<0.005	<0.005	<0.015	<0.005	<0.005	<0.005	<0.005	<5	--	--	--
B-H	20	8/30/00	0.22	<10	--	0.185	0.067	0.07	0.376	0.302	<0.005	0.008	0.010	<5	--	--	--

Table 1
SOIL ANALYTICAL DATA
Former Central BP Station
2160 Central Ave.
McKinleyville, CA

Sample			Soil														
Sample ID	Depth (feet)	Sample Date	TPHg (mg/Kg)	TPHd (mg/Kg)	TPHmo (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylenes (mg/Kg)	MTBE (mg/Kg)	DIPE (mg/Kg)	TAME (mg/Kg)	ETBE (mg/Kg)	TBA (mg/Kg)	Methanol (mg/Kg)	Ethanol (mg/Kg)	Total Lead (µg/g)
MW-4	5	8/30/00	<0.06	<10	--	<0.005	<0.005	<0.005	<0.015	<0.005	<0.005	<0.005	<0.005	<5	--	--	--
MW-4	10	8/30/00	<0.06	<10	--	<0.005	<0.005	<0.005	<0.015	<0.005	<0.005	<0.005	<0.005	<5	--	--	--
MW-4	15	8/30/00	<0.06	<10	--	<0.005	<0.005	<0.005	<0.015	<0.005	<0.005	<0.005	<0.005	<5	--	--	--
MW-4	20	8/30/00	<0.06	<10	--	<0.005	<0.005	<0.005	<0.015	<0.005	<0.005	<0.005	<0.005	<5	--	--	--
MW-5	5	8/30/00	<0.06	<10	--	<0.005	<0.005	<0.005	<0.015	<0.005	<0.005	<0.005	<0.005	<5	--	--	--
MW-5	10	8/30/00	<0.06	<10	--	<0.005	<0.005	<0.005	<0.015	<0.005	<0.005	<0.005	<0.005	<5	--	--	--
MW-5	15	8/30/00	0.114	<10	--	0.024	0.142	0.073	0.185	<0.005	<0.005	<0.005	<0.005	<5	--	--	--
MW-5	20	8/30/00	0.093	<10	--	0.083	0.487	0.073	0.285	0.016	<0.005	<0.005	<0.005	<5	--	--	--
MW-6	5	8/30/00	<0.06	<10	--	<0.005	<0.005	<0.005	<0.015	<0.005	<0.005	<0.005	<0.005	<5	--	--	--
MW-6	10	8/30/00	<0.06	<10	--	<0.005	<0.005	<0.005	<0.015	<0.005	<0.005	<0.005	<0.005	<5	--	--	--
MW-6	15	8/30/00	<0.06	<10	--	<0.005	<0.005	<0.005	<0.015	<0.005	<0.005	<0.005	<0.005	<5	--	--	--
MW-6	20	8/30/00	<0.06	<10	--	<0.005	<0.005	<0.005	<0.015	<0.005	<0.005	<0.005	<0.005	<5	--	--	--
MW-8	15	8/6/01	<1	<1	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.2	<0.01	--
MW-8	20	8/6/01	<1	<1	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.2	<0.01	--
MW-9	15	8/6/01	<1	<1	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.2	<0.01	--
MW-9	20	8/6/01	<1	<1	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.2	<0.01	--
MW-10	15	8/6/01	<1	<1	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.2	<0.01	--
MW-10	20	8/6/01	<1	<1	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.2	<0.01	--
MW-11	15	8/6/01	<1	<1	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.2	<0.01	--
MW-11	20	8/6/01	<1	<1	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.2	<0.01	--
MW-12	15	8/6/01	<1	<1	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.2	<0.01	--
MW-12	20	8/6/01	<1	<1	--	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.2	<0.01	--

Table 1
SOIL ANALYTICAL DATA
Former Central BP Station
2160 Central Ave.
McKinleyville, CA

Sample ID	Sample		Soil														
	Depth (feet bgs)	Sample Date	TPH _g (mg/Kg)	TPH _d (mg/Kg)	TPH _{mo} (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylenes (mg/Kg)	MTBE (mg/Kg)	DIPE (mg/Kg)	TAME (mg/Kg)	ETBE (mg/Kg)	TBA (mg/Kg)	Methanol (mg/Kg)	Ethanol (mg/Kg)	Total Lead (µg/g)
Remedial Action																	
VEW-1@10	10	9/24/03	1.2	2.8	--	0.022	0.035	0.025	0.17	0.0069	--	--	--	--	--	--	--
VEW-1@15	15	9/24/03	5,300	650	--	9.9	230	130	690	<1	--	--	--	--	--	--	--
VEW-1@20	20	9/24/03	21	1.5	--	1.3	3.4	0.52	2.7	0.15	--	--	--	--	--	--	--
VEW-2@10	10	9/24/03	1.1	5.4	--	<0.005	0.036	0.026	0.14	<0.005	--	--	--	--	--	--	--
VEW-2@15	15	9/24/03	180	74	--	<0.025	0.1	2.5	9.4	<0.025	--	--	--	--	--	--	--
VEW-2@20	20	9/24/03	1,100	67	--	7.8	37	15	67	0.28	--	--	--	--	--	--	--
VEW-3@10	10	9/24/03	<1	2.4	--	<0.005	<0.005	0.0095	0.0068	<0.005	--	--	--	--	--	--	--
VEW-3@15	15	9/24/03	470	280	--	0.99	20	23	89	<0.1	--	--	--	--	--	--	--
VEW-3@20	20	9/24/03	2.7	2.6	--	0.027	0.28	0.059	0.25	<0.005	--	--	--	--	--	--	--
VEW-4@10	10	9/24/03	390	220	--	<0.05	<0.05	1.2	6.4	<0.005	--	--	--	--	--	--	--
VEW-4@15	15	9/24/03	10,000	1,500	--	11	290	180	780	<5	--	--	--	--	--	--	--
VEW-4@20	20	9/24/03	9.9	1.4	--	1	1.6	0.19	1	0.01	--	--	--	--	--	--	--
VEW-5@15	15	9/24/03	130	60	--	<0.025	<0.025	0.33	0.37	<0.025	--	--	--	--	--	--	--
VEW-5@20	20	9/24/03	1.1	<1	--	0.032	0.14	0.035	0.12	<0.005	--	--	--	--	--	--	--

Notes:

mg/Kg = milligrams per kilogram = ppm = parts per million

"--": Not analyzed, available, or applicable

TPH_{mo}: Total Petroleum Hydrocarbons as Motor Oil by Method 3550/8015M

TPH_d: Total Petroleum Hydrocarbons as Diesel by Method 3550/8015M

TPH_g: Total Petroleum Hydrocarbons as Gasoline by Method 8260B

Benzene: by Method 8260B

Toluene: by Method 8260B

Ethylbenzene: by Method 8260B

Xylenes: by Method 8260B

MTBE: Methyl Tertiary Butyl Ether by Method 8260B

DIPE: Di-Isopropyl Ether by Method 8260B

TAME: Tertiary Amyl Methyl Ether by Method 8260B

ETBE: Ethyl Tertiary Butyl Ether by Method 8260B

TBA: Tertiary Butyl Alcohol by Method 8260B

Methanol: by Method 8260B

Ethanol: by Method 8260B

Total Lead: by EPA 200.9

Table 2
GRAB GROUNDWATER ANALYTICAL DATA
Former Central BP Station
2160 Central Ave.
McKinleyville, CA

Sample ID	Sample Depth (ft)	Sample Date	Groundwater											
			TPHg (µg/L)	TPHd (µg/L)	TPHmo (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	DIPE (µg/L)	TAME (µg/L)	ETBE (µg/L)	TBA (µg/L)
B-1-GW	~16	7/20/99	170,000	1,100	<500	4,600	15,000	3,700	49,000	<250	<500	<500	<500	<5000
B-2-GW	~15.5	7/20/99	590,000	14,000	<5000	22,000	46,000	8,700	46,000	280	<500	<500	<500	<5000
B-3-GW	~15.5	7/20/99	360,000	3,200	<500	16,000	44,000	5,500	29,700	450	<500	<500	<500	<5000
B-4-GW	~14.5	7/20/99	61,000	960	<500	2,100	1,100	1,100	3,900	150	<50	<50	<50	<500
B-A	~15	8/30/00	146	<50	-	0.7	0.5	4.2	1.6	<2.0	<0.5	<0.5	<0.5	<500
B-B	~15	8/30/00	25,800	35,000	-	1,760	19,400	5,870	22,500	<2000	<500	<500	<500	<500,000
B-C	~15	8/30/00	931,000	26,000	-	1,010	21,100	7,490	29,800	<2000	<50	<50	<50	<50,000
B-E	~15	8/30/00	11,500	1,740	-	23.3	8	190	170	127	<0.5	<0.5	<0.5	<500
B-F	~15	8/30/00	31,500	957	-	37,800	62,200	37,800	15,300	274	<0.5	<0.5	<0.5	<500
B-G	~15	8/30/00	3,780	754	-	13.7	172	328	22	681	<0.5	118	<0.5	<500
B-H	~15	8/30/00	43,300	1,120	-	11,700	10,400	2,700	8,270	2,130	<0.5	<5.0	36	<500

Footnotes

µg/L = micrograms per liter = parts per billion = -ppb

*-: Not analyzed, available, or applicable

TPHmo: Total Petroleum Hydrocarbons as Motor Oil by Method 3550/8015M

TPHd: Total Petroleum Hydrocarbons as Diesel by Method 3550/8015M

TPHg: Total Petroleum Hydrocarbons as Gasoline by Method 8260B

Benzene: by Method 8260B

Toluene: by Method 8260B

Ethylbenzene: by Method 8260B

Xylenes: by Method 8260B

MTBE: Methyl Tertiary Butyl Ether by Method 8260B

DIPE: Di-Isopropyl Ether by Method 8260B

TAME: Tertiary Amyl Methyl Ether by Method 8260B

ETBE: Ethyl Tertiary Butyl Ether by Method 8260B

TBA: Tertiary Butyl Alcohol by Method 8260B

Table 3
GROUNDWATER ELEVATION AND
ANALYTICAL RESULTS
 Former Central BP Station
 2160 Central Ave.
 McKinleyville, California
 Project No. NC-24

Well No.	Sampling Date	TOC (feet)	DTW (feet)	GWE (feet)	TPHg (µg/L)	TPHd (µg/L)	TPHmo (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	DIPE (µg/L)	TAME (µg/L)	ETBE (µg/L)	TBA (µg/L)	Ethanol (µg/L)	Methanol (µg/L)
MW-1 Screen 5'-25'	7/28/99	149.69	14.52	135.17	13,000	620	<500	12	10	580	796	25	--	--	--	--	--	--
	10/25/99	149.69	17.42	132.27	10,000	640	<500	48	3.9	400	262	83	<2.5	110	<2.5	<50	--	--
	1/18/00	149.69	14.32	135.37	<50	<50	<500	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<10	--	--
	2/17/00	149.69	9.36	140.33	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/3/00	149.69	8.52	141.17	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	4/21/00	149.69	10.39	139.30	<50	<50	<170	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<10	--	--
	9/12/00	149.69	17.11	132.58	113	135	--	0.7	0.8	3.6	8.1	<2	<0.5	<0.5	<0.5	<500	--	--
	10/16/00	149.69	17.97	131.72	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	11/16/00	149.69	18.37	131.72	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/14/00	149.69	18.59	131.10	148	<50	--	2.9	<0.8	<0.8	<1.5	5.1	<1.3	<1.3	<1.3	<1.3	--	--
	1/22/01	149.69	18.46	131.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/16/01	149.69	17.78	131.91	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/9/01	149.69	16.78	132.91	885	100	--	<0.3	<0.5	<0.3	6.2	<2	<0.5	<0.5	<0.5	<0.5	--	--
	4/13/01	149.69	17.11	132.58	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/7/01	149.69	17.7	131.99	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/01	149.69	18.04	131.65	930	<250	--	1.7	0.85	20	1.9	0.67	<0.5	<0.5	<0.5	<5	--	--
	7/18/01	149.69	19.02	130.67	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/17/01	149.69	19.57	130.12	170	<100	--	<0.5	0.66	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<50
	10/10/01	149.69	dry	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	11/19/01	149.69	dry	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/27/01	149.69	15.81	133.88	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	1/14/02	149.69	13.31	136.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/4/02	149.69	12.46	137.23	64	<50	--	<0.5	<0.5	<0.5	3.1	<0.5	<0.5	<0.5	<0.5	<5	<5	<50
	3/14/02	149.69	9.79	139.90	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	4/4/02	149.69	10.27	139.42	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/7/02	149.69	12.12	137.57	<50	<50	--	<0.5	<0.5	<0.5	0.8	<0.5	<0.5	<0.5	<0.5	<5	<5	<50
	7/23/02	148.28	16.61	131.67	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/5/02	148.28	17.01	131.27	430	<200	--	<0.5	<0.5	16	15	<0.5	<0.5	<0.5	<0.5	<5	<5	58
	11/18/02	148.28	dry	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/6/03	148.28	9.53	138.75	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<50
	5/1/03	148.28	7.83	140.45	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<50
	8/1/03	148.28	14.89	133.39	1,200	<200	--	0.63	5.4	1.8	61	<0.5	<0.5	<0.5	<0.5	<5	--	--
	11/10/03	148.28	19.25	129.03	<50	64	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<50
	2/4/04	148.28	10.01	138.27	<50	71	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--
	6/28/04	148.28	15.04	133.24	630	<200	--	<0.5	1.2	15	22	<0.5	--	--	--	--	--	--
	9/8/04	148.28	17.87	130.41	150	<200	--	<0.5	<0.5	5.9	<0.5	<0.5	--	--	--	--	--	--
	12/2/04	148.28	19.19	129.09	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--
	3/27/05	148.28	14.04	134.24	130	<50	--	<0.5	<0.5	1.3	1.9	<0.5	--	--	--	--	--	--
	6/14/05	148.28	13.42	134.86	<50	59	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--
	9/13/05	148.28	18.28	130.00	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--
	12/28/05	148.28	9.59	138.69	<50	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--
MW-2 Screen 5'-25'	7/28/99	149.24	14.11	135.13	<50	<50	<500	<0.5	<50	<0.5	<0.5	40	--	--	--	--	--	--
	10/25/99	149.24	16.77	132.47	<50	<50	<500	1.4	<0.5	<0.5	<0.5	27	<1	<1	<1	<10	--	--
	1/18/00	149.24	9.89	139.35	<50	<50	<500	<0.5	<0.5	<0.5	<0.5	1	<1	<1	<1	<10	--	--
	2/17/00	149.24	10.76	138.48	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/3/00	149.24	9.72	139.52	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	4/21/00	149.24	11.21	138.03	<50	<50	<170	<0.5	<0.5	<0.5	<0.5	12	<1	<1	<1	<10	--	--
	9/12/00	149.24	16.43	132.81	<50	<50	--	0.9	<0.3	<0.3	<0.6	23.9	<0.5	<0.5	<0.5	<500	--	--
	10/16/00	149.24	17.33	131.91	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	11/16/00	149.24	17.86	132.81	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/14/00	149.24	18.16	131.91	<50	<50	--	<0.3	<0.3	<0.3	<0.6	14.3	<0.5	<0.5	<0.5	<0.5	--	--
	1/22/01	149.24	18.19	131.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/16/01	149.24	17.74	131.50	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/9/01	149.24	17.04	132.20	<50	<50	--	<0.3	<0.3	<0.3	<0.6	7	<0.5	<0.5	<0.5	<0.5	--	--
	4/13/01	149.24	17.01	132.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 3
GROUNDWATER EVALUATION AND
ANALYTICAL RESULTS
Former Central BP Station
2160 Central Ave.
Mckinleyville, California
Project No. NC-24

Well No.	Sampling Date	TOC (feet)	DTW (feet)	CWE (feet)	TPH _g (µg/L)	TPH _d (µg/L)	TPH _{mo} (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	DIPE (µg/L)	TAME (µg/L)	ETBE (µg/L)	TBA (µg/L)	Ethanol (µg/L)	Methanol (µg/L)
MW-2	5/7/01	149.24	17.34	131.90	<50	<50	<50	<50	<50	<50	<50	13	<50	<50	<50	<50	<50	<50
	6/1/01	149.24	17.83	130.59	<50	<50	<50	<50	<50	<50	<50	11	<50	<50	<50	<50	<50	<50
	7/18/01	149.24	18.65	130.59	<50	<50	<50	<50	<50	<50	<50	4.9	<50	<50	<50	<50	<50	<50
	8/17/01	149.24	19.14	130.10	<50	<50	<50	<50	<50	<50	<50	6.9	<50	<50	<50	<50	<50	<50
	10/10/01	149.24	19.92	129.32	<50	<50	<50	<50	<50	<50	<50	89.7	<50	<50	<50	<50	<50	<50
	11/19/01	149.24	20.55	128.69	<50	<50	<50	<50	<50	<50	<50	6.9	<50	<50	<50	<50	<50	<50
	12/27/01	149.24	17.89	131.35	<50	<50	<50	<50	<50	<50	<50	62.3	<50	<50	<50	<50	<50	<50
	1/14/02	149.24	15.86	133.38	<50	<50	<50	<50	<50	<50	<50	6.2	<50	<50	<50	<50	<50	<50
	2/4/02	149.24	14.51	134.73	<50	<50	<50	<50	<50	<50	<50	73	<50	<50	<50	<50	<50	<50
	3/14/02	149.24	11.34	137.90	<50	<50	<50	<50	<50	<50	<50	53	<50	<50	<50	<50	<50	<50
	4/4/02	149.24	11.49	137.75	<50	<50	<50	<50	<50	<50	<50	73	<50	<50	<50	<50	<50	<50
	5/7/02	149.24	12.69	136.55	<50	<50	<50	<50	<50	<50	<50	6.2	<50	<50	<50	<50	<50	<50
	7/23/02	148.06	15.81	132.25	<50	<50	<50	<50	<50	<50	<50	1.1	<50	<50	<50	<50	<50	<50
	8/5/02	148.06	16.15	131.91	<50	<50	<50	<50	<50	<50	<50	1.1	<50	<50	<50	<50	<50	<50
	11/18/02	148.06	18.96	129.10	<50	<50	<50	<50	<50	<50	<50	0.5	<50	<50	<50	<50	<50	<50
	2/6/03	148.06	11.04	137.02	<50	<50	<50	<50	<50	<50	<50	10	<50	<50	<50	<50	<50	<50
	MW-3	5/7/01	148.62	13.40	135.22	<50	<50	<50	<50	<50	<50	<50	100	<50	<50	<50	<50	<50
10/25/99		148.62	16.72	131.90	<50	<50	<50	<50	<50	<50	<50	11	<50	<50	<50	<50	<50	<50
2/17/00		148.62	8.17	140.45	<50	<50	<50	<50	<50	<50	<50	4.9	<50	<50	<50	<50	<50	<50
3/3/00		148.62	7.46	141.16	<50	<50	<50	<50	<50	<50	<50	6.9	<50	<50	<50	<50	<50	<50
4/21/00		149.24	9.54	139.70	<50	<50	<50	<50	<50	<50	<50	6.9	<50	<50	<50	<50	<50	<50
9/12/00		149.24	16.23	133.01	<50	<50	<50	<50	<50	<50	<50	89.7	<50	<50	<50	<50	<50	<50
10/16/00		149.24	17.13	132.11	<50	<50	<50	<50	<50	<50	<50	89.7	<50	<50	<50	<50	<50	<50
11/16/00		149.24	17.52	131.72	<50	<50	<50	<50	<50	<50	<50	62.3	<50	<50	<50	<50	<50	<50
12/14/00		149.24	17.67	131.57	<50	<50	<50	<50	<50	<50	<50	62.3	<50	<50	<50	<50	<50	<50
1/22/01		149.24	17.68	131.56	<50	<50	<50	<50	<50	<50	<50	62.3	<50	<50	<50	<50	<50	<50
2/16/01		149.24	16.99	132.25	<50	<50	<50	<50	<50	<50	<50	62.3	<50	<50	<50	<50	<50	<50
3/9/01		149.24	15.93	133.31	<200	<50	<50	<50	<50	<50	<50	42.6	<50	<50	<50	<50	<50	<50
4/13/01		149.24	16.19	133.05	<50	<50	<50	<50	<50	<50	<50	42.6	<50	<50	<50	<50	<50	<50
5/7/01		149.24	16.63	132.61	<50	<50	<50	<50	<50	<50	<50	42.6	<50	<50	<50	<50	<50	<50
6/1/01		149.24	17.16	132.08	<50	<50	<50	<50	<50	<50	<50	42.6	<50	<50	<50	<50	<50	<50
7/17/01		149.24	18.10	131.14	<50	<50	<50	<50	<50	<50	<50	42.6	<50	<50	<50	<50	<50	<50
8/17/01		149.24	18.65	130.59	<50	<50	<50	<50	<50	<50	<50	42.6	<50	<50	<50	<50	<50	<50
Screen 5'-25'	2/17/00	148.62	8.17	140.45	<50	<50	<50	<50	<50	<50	<50	4.9	<50	<50	<50	<50	<50	<50
MW-2	5/7/01	149.24	17.34	131.90	<50	<50	<50	<50	<50	<50	<50	13	<50	<50	<50	<50	<50	<50
	6/1/01	149.24	17.83	130.59	<50	<50	<50	<50	<50	<50	<50	13	<50	<50	<50	<50	<50	<50
	7/18/01	149.24	18.65	130.59	<50	<50	<50	<50	<50	<50	<50	13	<50	<50	<50	<50	<50	<50
	8/17/01	149.24	19.14	130.10	<50	<50	<50	<50	<50	<50	<50	13	<50	<50	<50	<50	<50	<50
	10/10/01	149.24	19.92	129.32	<50	<50	<50	<50	<50	<50	<50	19	<50	<50	<50	<50	<50	<50
	11/19/01	149.24	20.55	128.69	<50	<50	<50	<50	<50	<50	<50	19	<50	<50	<50	<50	<50	<50
	12/27/01	149.24	17.89	131.35	<50	<50	<50	<50	<50	<50	<50	19	<50	<50	<50	<50	<50	<50
	1/14/02	149.24	15.86	133.38	<50	<50	<50	<50	<50	<50	<50	19	<50	<50	<50	<50	<50	<50
	2/4/02	149.24	14.51	134.73	<50	<50	<50	<50	<50	<50	<50	19	<50	<50	<50	<50	<50	<50
	3/14/02	149.24	11.34	137.90	<50	<50	<50	<50	<50	<50	<50	19	<50	<50	<50	<50	<50	<50
	4/4/02	149.24	11.49	137.75	<50	<50	<50	<50	<50	<50	<50	19	<50	<50	<50	<50	<50	<50
	5/7/02	149.24	12.69	136.55	<50	<50	<50	<50	<50	<50	<50	8.5	<50	<50	<50	<50	<50	<50
	7/23/02	148.06	15.81	132.25	<50	<50	<50	<50	<50	<50	<50	8.5	<50	<50	<50	<50	<50	<50
	8/5/02	148.06	16.15	131.91	<50	<50	<50	<50	<50	<50	<50	8.5	<50	<50	<50	<50	<50	<50
	11/18/02	148.06	18.96	129.10	<50	<50	<50	<50	<50	<50	<50	1.5	<50	<50	<50	<50	<50	<50
	2/6/03	148.06	11.04	137.02	<50	<50	<50	<50	<50	<50	<50	1.5	<50	<50	<50	<50	<50	<50
	5/1/03	148.06	8.96	139.10	<50	<50	<50	<50	<50	<50	<50	1.5	<50	<50	<50	<50	<50	<50

Table 3
GROUNDWATER ELEVATION AND
ANALYTICAL RESULTS
 Former Central BP Station
 2160 Central Ave.
 McKinleyville, California
 Project No. NC-24

Well No.	Sampling Date	TOC (feet)	DTW (feet)	GWE (feet)	TPHg (µg/L)	TPHd (µg/L)	TPHmo (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	DIPE (µg/L)	TAME (µg/L)	ETBE (µg/L)	TBA (µg/L)	Ethanol (µg/L)	Methanol (µg/L)
MW-4 Screen 5'-25'	9/12/00	149.92	17.56	132.36	<50	<50	--	<0.3	<0.3	<0.3	<0.6	<2	<0.5	<0.5	<0.5	<500	--	--
	10/16/00	149.92	18.41	131.51	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	11/16/00	149.92	18.65	131.27	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/14/00	149.92	18.88	131.04	<50	<50	--	<0.3	<0.3	<0.3	<0.6	<2	<0.5	<0.5	<0.5	<0.5	--	--
	1/22/01	149.92	18.65	131.27	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/16/01	149.92	17.82	132.10	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/9/01	149.92	16.52	133.40	<50	<50	--	<0.3	<0.3	<0.3	<0.6	<2	<0.5	<0.5	<0.5	<0.5	--	--
	4/13/01	149.92	17.14	132.78	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/7/01	149.92	17.70	132.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/01	149.92	18.23	131.69	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	--	--
	7/18/01	149.92	19.24	130.68	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/17/01	149.92	19.84	130.08	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<50
	10/10/01	149.92	20.72	129.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	11/19/01	149.92	21.28	128.64	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<50
	12/27/01	149.92	15.81	134.11	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	1/14/02	149.92	12.50	137.42	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/4/02	149.92	12.08	137.84	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<50
	3/14/02	149.92	9.61	140.31	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	4/4/02	149.92	10.48	139.44	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/7/02	149.92	12.24	137.68	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<50
	7/23/02	148.51	17.01	131.50	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/5/02	148.51	17.43	131.08	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	11	100
	11/18/02	148.51	20.01	128.50	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<50
	2/6/03	148.51	9.33	139.18	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<50
	5/1/03	148.51	7.67	140.84	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<50
	8/1/03	148.51	15.18	133.33	<50	63	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<50
	11/10/03	148.51	19.62	128.89	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<50
	2/4/04	148.51	9.86	138.65	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--
	6/28/04	148.51	15.21	133.30	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--
	9/8/04	148.51	18.25	130.26	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--
	12/2/04	148.51	19.48	129.03	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--
	3/27/05	148.51	13.29	135.22	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--
	6/14/05	148.51	12.73	135.78	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--
	9/13/05	148.51	18.11	130.40	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--
	12/28/05	148.51	8.63	139.88	<50	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--
MW-5 Screen 5'-25'	9/12/00	149.02	15.83	133.19	69,300	5,240	--	566	7,310	2,690	9,570	28.5	<0.5	<0.5	<0.5	<500	--	--
	10/16/00	149.02	16.92	132.10	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	11/16/00	149.02	17.62	131.40	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	12/14/00	149.02	17.93	131.09	40,400	7,050	--	324	2,260	1,280	4,730	25	<2.5	<2.5	<2.5	<2.5	--	--
	1/22/01	149.02	17.86	131.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/16/01	149.02	17.22	131.80	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/9/01	149.02	16.56	132.46	36,500	--	--	523	3,950	1,240	4,750	21.2	<0.5	<0.5	<0.5	<0.5	--	--
	4/13/01	149.02	16.54	132.48	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/7/01	149.02	16.81	132.21	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/01	149.02	17.28	131.74	35,000	<2,500	--	400	2,800	1,200	4,300	12	<10	<10	<10	<100	--	--
	7/18/01	149.02	18.33	130.69	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/17/01	149.02	18.93	130.09	33,000	<2,800	--	130	1,300	920	2,900	<5	<5	<5	<5	<50	<50	<500
	10/10/01	149.02	19.82	129.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	11/19/01	149.02	20.43	128.59	30,000	<2,100	--	630	2,700	1,000	3,300	25	<10	<10	<10	<100	<100	<1,000
	12/27/01	149.02	17.45	131.57	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	1/14/02	149.02	15.48	133.54	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/4/02	149.02	13.98	135.04	72,000	<2,900	--	2,300	14,000	2,100	8,100	<50	<50	<50	<50	<500	<500	<5,000
	3/14/02	149.02	10.67	138.35	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	4/4/02	149.02	10.85	138.17	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/7/02	149.02	12.10	136.92	30,000	<500	--	1,100	3,700	940	3,300	<5.0	<5.0	<5.0	<5.0	<50	<50	<500
	7/23/02	147.64	15.37	132.27	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/5/02	147.64	15.73	131.91	55,000	<2,500	--	1,100	4,900	1,800	6,500	<20	<20	<20	<20	<200	<200	<2,000
	11/18/02	147.64	18.91	128.73	26,000	<3,500	--	220	450	930	1,900	33	<5	6.7	<5	<50	<50	<500
	2/6/03	147.64	10.32	137.32	2,300	<400	--	8.9	60	33	79	<0.5	<0.5	<0.5	<0.5	9.3	<20	<50
	5/1/03	147.64	8.27	139.37	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<50
	8/1/03	147.64	13.81	133.83	8,800	<600	--	110	1,300	210	1,000	<0.5	<0.5	<0.5	<0.5	<5	21	--
	11/10/03	147.64	18.06	129.58	24,000	<3,300	--	170	200	540	1,000	<5	<5	<5	<5	<50	<50	<500
	2/4/04	147.64	10.86	136.78	3,800	<300	--	9.1	31	59	110	<1	--	--	--	--	--	--
	6/28/04	147.64	14.27	133.37	13,000	<1,000	--	270	600	440	1,600	<2.5	--	--	--	--	--	--
	9/8/04	147.64	16.16	131.48	24,000	<4,000	--	210	230	730	1,300	<5	--	--	--	--	--	--
	12/2/04	147.64	18.11	129.53	37,000	<2,000	--	1,900	5,100	1,400	3,500	17	--	--	--	--	--	--
	3/27/05	147.64	11.84	135.80	6,600	<800	--	680	1,600	180	480	11	--	--	--	--	--	--
	6/14/05	147.64	12.65	134.99	4,100	<300	--	250	550	160	520	6.5	--	--	--	--	--	--
	9/13/05	147.64	16.80	130.84	700	<50	--	16	17	160	520	6.5	--	--	--	--	--	--
	12/28/05	147.64	9.81	137.83	<50	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--

Table 3
GROUNDWATER ELEVATION AND
ANALYTICAL RESULTS
Former Central BP Station
2160 Central Ave.
Mckinleyville, California
Project No. NC-24

Well No.	Sampling Date	TOC (feet)	DTW (feet)	GWE (feet)	TPHg (µg/L)	TPHd (µg/L)	TPHmo (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	DIPE (µg/L)	TAME (µg/L)	ETBE (µg/L)	TBA (µg/L)	Ethanol (µg/L)	Methanol (µg/L)
MW-6	9/12/00	149.82	17.28	132.54	2,310	759	--	20.5	28.5	177	58.7	13.8	<0.5	<0.5	<0.5	<500	--	--
	10/16/00	149.82	18.23	131.59	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Screen	11/16/00	149.82	18.56	131.26	--	--	--	--	--	--	--	--	--	--	--	--	--	--
5'-25'	12/14/00	149.82	18.82	131.00	1,790	670	--	12.9	2.5	175	9.9	8.1	<0.5	<0.5	<0.5	<0.5	--	--
	1/22/01	149.82	18.73	131.09	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/16/01	149.82	18.03	131.79	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/9/01	149.82	17.09	132.73	8,150	1,880	--	11.9	9.4	458	173	2.6	<0.5	<0.5	<0.5	<0.5	--	--
	4/13/01	149.82	17.38	132.44	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/7/01	149.82	17.82	132.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/01	149.82	18.33	131.49	4,400	<1,200	--	3.6	1.2	180	20	1.9	<1	<1	<1	<10	--	--
	7/18/01	149.82	19.31	130.51	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/17/01	149.82	19.86	129.96	1,900	<600	--	7.8	<0.5	17	1.3	3.6	<0.5	0.86	<0.5	<5	<5	<50
	10/10/01	149.82	20.73	129.09	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	11/19/01	149.82	21.27	128.55	2,100	<400	--	23	2.9	28	0.68	9.4	<0.5	2.3	<0.5	<5	<5	<100
	12/27/01	149.82	17.36	132.46	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	1/14/02	149.82	14.93	134.89	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/4/02	149.82	13.93	135.89	2,700	<400	--	0.8	<0.5	55	40	<0.5	<0.5	<0.5	<0.5	<5	<5	<50
	3/14/02	149.82	11.27	138.55	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	4/4/02	149.82	11.62	138.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/7/02	149.82	12.98	136.84	1,100	<200	--	<0.05	<0.5	24	1.2	<0.5	<0.5	<0.5	<0.5	<5	<5	<50
	7/23/02	148.42	16.84	131.58	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/5/02	148.42	17.23	131.19	2,600	<500	--	1.8	<0.5	100	<0.5	<0.5	<0.5	<0.5	<0.5	7.1	<15	<50
	11/18/02	148.42	19.94	128.48	370	<200	--	1.7	<0.5	1.3	<0.5	<0.5	<0.5	<0.5	<0.5	5.9	<5	<50
	2/6/03	148.42	10.78	137.64	460	<300	--	<0.5	<0.5	3.6	3.3	<0.5	<0.5	<0.5	<0.5	<5	<5	<50
	5/1/03	148.42	8.90	139.52	130	<150	--	<0.5	<0.5	2.6	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<50
	8/1/03	148.42	15.11	133.31	830	<400	--	<0.5	<0.5	14	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	--
	11/10/03	148.42	19.44	128.98	740	<400	--	2.8	0.64	14	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<50
	2/4/04	148.42	10.95	137.47	260	<200	--	<0.5	<0.5	<0.5	0.62	<0.5	--	--	--	--	--	--
	6/28/04	148.42	15.30	133.12	180	<100	--	<0.5	<0.5	2.6	<0.5	<0.5	--	--	--	--	--	--
	9/8/04	148.42	18.08	130.34	430	<400	--	0.7	<0.5	7.1	<0.5	<0.5	--	--	--	--	--	--
	12/2/04	148.42	19.43	128.99	92	<50	--	0.7	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--
	3/27/05	148.42	14.94	133.48	150	<100	--	<0.5	<0.5	1.6	2	<0.5	--	--	--	--	--	--
	6/14/05	148.42	14.26	134.16	490	<300	--	<0.5	<0.5	4	1.3	<0.5	--	--	--	--	--	--
	9/13/05	148.42	18.92	129.50	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--
	12/28/05	148.42	11.55	136.87	<50	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--
MW-7	9/12/00	149.53	16.26	133.27	324,000	6,380	--	18,300	46,100	7,650	33,200	<400	<0.5	<0.5	<0.5	<500	--	--
	10/16/00	149.53	17.44	132.09	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Screen	11/16/00	149.53	17.96	131.57	--	--	--	--	--	--	--	--	--	--	--	--	--	--
5'-25'	12/14/00	149.53	18.27	131.26	87,200	2,910	--	12,100	28,800	3,220	14,090	81.3	<2.5	--	<2.5	2.5	--	--
	1/22/01	149.53	18.25	131.28	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/16/01	149.53	17.74	131.79	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/9/01	149.53	17.04	132.49	87,500	7,810	--	7,120	21,300	2,250	10,440	48.9	<0.5	<0.5	<0.5	<0.5	--	--
	4/13/01	149.53	17.12	132.41	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/7/01	149.53	17.40	132.13	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	6/1/01	149.53	17.89	131.64	120,000	<4,000	--	9,900	26,000	3,100	13,000	60	<50	<50	<50	<500	--	--
	7/18/01	149.53	18.72	130.81	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/17/01	149.53	19.23	130.30	86,000	<3,000	--	8,000	15,000	3,300	12,000	67	<50	<50	<50	<500	<500	<5,000
	10/10/01	149.53	19.89	129.64	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	11/19/01	149.53	20.64	128.89	88,000	<6,500	--	5,900	14,000	2,800	11,000	<50	<50	<50	<50	<500	<500	<5,000
	12/27/01	149.53	17.74	131.79	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	1/14/02	149.53	15.71	133.82	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/4/02	149.53	14.44	135.09	110,000	<10,200	--	960	12,000	3,600	16,000	<50	<50	<50	<50	<500	<500	<5,000
	3/14/02	149.53	10.88	138.65	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	4/4/02	149.53	11.18	138.35	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/7/02	149.53	12.49	137.04	180,000	<9,400	--	1,200	13,000	4,100	18,000	<25	<25	<25	<25	<250	<250	<2,500
	7/23/02	148.09	15.73	132.36	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/5/02	148.09	16.06	132.03	130,000	<4,500	--	1,200	15,000	3,900	16,000	<50	<50	<50	<50	<500	<500	<5,000
	11/18/02	148.09	19.12	128.97	110,000	<7,000	--	2,900	21,000	3,300	13,000	<100	<100	<100	<100	<1,000	<1,000	<10,000
	2/6/03	148.09	10.64	137.45	78,000	<26,000	--	200	3,100	3,600	13,000	<20	<20	<20	<20	<200	<200	<2,000
	5/1/03	148.09	8.57	139.52	41,000	<6,700	--	23	400	1,700	6,600	<0.5	<0.5	<0.5	<0.5	<5	8.7	<50
	8/1/03	148.09	14.18	133.91	89,000	<25,000	--	340	4,700	4,300	18,000	<25	<25	<25	<25	<250	--	--
	11/10/03	148.09	18.53	129.56	77,000	<6,700	--	630	5,500	1,900	8,400	<25	<25	<25	<25	<250	<250	<2,500
	2/4/04	148.09	11.05	137.04	62,000	<8,000	--	110	1,900	2,700	11,000	<10	--	--	--	--	--	--
	6/28/04	148.09	14.58	133.51	77,000	<8,000	--	200	3,100	2,700	11,000	<20	--	--	--	--	--	--
	9/8/04	148.09	17.04	131.05	64,000	<10,000	--	320	2,400	2,600	11,000	<25	--	--	--	--	--	--
	12/2/04	148.09	18.64	129.45	44,000	<10,000	--	430	1,100	1,600	5,900	<10	--	--	--	--	--	--
	3/27/05	148.09	15.24	132.85	18,000	<10,000	--	180	460	390	2,400	<4	--	--	--	--	--	--
	6/14/05	148.09	13.99	134.10	16,000	<3,000	--	200	1,400	220	2,400	<4	--	--	--	--	--	--
	9/13/05	148.09	21.31	126.78	11,000	<50	--	230	30	300	920	<2	--	--	--	--	--	--
	12/28/05	148.09	11.73	136.36	11,000	<600	--	51	500	240	2,300	<4	--	--	--	--	--	--

Table 3
GROUNDWATER ELEVATION AND
ANALYTICAL RESULTS
Former Central BP Station
2160 Central Ave.
Mckinleyville, California
Project No. NC-24

Well No.	Sampling Date	TOC (feet)	DTW (feet)	GWE (feet)	TPHg (µg/L)	TPHd (µg/L)	TPHmo (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	DIPE (µg/L)	TAME (µg/L)	ETBE (µg/L)	TBA (µg/L)	Ethanol (µg/L)	Methanol (µg/L)
MW-8	8/17/01	148.75	18.58	130.17	540	<200	--	82	<0.5	1.4	3.8	23	<0.5	<0.5	<0.5	7.8	<5	<50
	10/10/01	148.75	19.36	129.39	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Screen	11/19/01	148.75	19.99	128.76	870	<120	--	19	<0.5	11	<0.5	160	<0.5	2.2	4.6	15	<5	<50
5'-25'	12/27/01	148.75	17.42	131.33	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	1/14/02	148.75	14.77	133.98	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/4/02	148.75	13.48	135.27	1,200	<300	--	30	<0.5	<0.5	1.3	290	<0.5	4.9	4.3	32	<12	<650
	3/14/02	148.75	10.77	137.98	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	4/4/02	148.75	10.95	137.80	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/7/02	148.75	12.17	136.58	1,400	<100	--	110	0.51	<0.5	1.5	19	<0.5	<0.5	<0.5	9.6	<5	<50
	7/23/02	147.49	15.52	131.97	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/5/02	147.49	15.90	131.59	780	<200	--	90	<0.5	<0.5	0.96	40	<0.5	0.60	0.55	12	<5	<75
	11/18/02	147.49	18.53	128.96	380	100	--	46	<0.5	1.1	<0.5	89	<0.5	1.10	<0.5	16	<5	<50
	2/6/03	147.49	10.32	137.17	210	<50	--	10	<0.5	<0.5	<0.5	24	<0.5	<0.5	<0.5	12	<5	<50
	5/1/03	147.49	8.40	139.09	150	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<50
	8/1/03	147.49	13.92	133.57	650	120	--	73	<0.5	<0.5	1.2	12	<0.5	<0.5	<0.5	28	--	--
	11/10/03	147.49	18.16	129.33	88	87	--	4	<0.5	<0.5	<0.5	78	<0.5	0.93	1.3	8.9	<5	<50
	2/4/04	147.49	10.78	136.71	120	<50	--	1.2	<0.5	<0.5	<0.5	4.2	--	--	--	--	--	--
	6/28/04	147.49	14.23	133.26	160	<50	--	22	<0.5	<0.5	0.91	9.6	--	--	--	--	--	--
	9/8/04	147.49	16.77	130.72	52	<50	--	15	<0.5	<0.5	<0.5	27	--	--	--	--	--	--
	12/2/04	147.49	18.17	129.32	380	<50	--	39	<0.5	11	<0.5	41	--	--	--	--	--	--
	3/27/05	147.49	14.97	132.52	<50	<50	--	<0.5	<0.5	<0.5	<0.5	0.85	--	--	--	--	--	--
	6/14/05	147.70	12.65	135.05	<50	52	--	<0.5	<0.5	<0.5	<0.5	0.68	--	--	--	--	--	--
	9/13/05	147.70	16.94	130.76	<50	<50	--	<0.5	<0.5	<0.5	<0.5	4	--	--	--	--	--	--
	12/28/05	147.70	11.56	136.14	<50	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--
MW-9	8/17/01	148.19	17.41	130.78	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<50
	10/10/01	148.19	18.09	130.10	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Screen	11/19/01	148.19	18.66	129.53	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<50
5'-25'	12/27/01	148.19	16.10	132.09	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	1/14/02	148.19	14.09	134.10	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/4/02	148.19	12.88	135.31	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<50
	3/14/02	148.19	9.91	138.28	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	4/4/02	148.19	10.05	138.14	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/7/02	148.19	11.27	136.92	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<50
	7/23/02	147.00	14.27	132.73	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/5/02	147.00	14.64	132.36	<50	67	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<50
	11/18/02	147.00	17.32	129.68	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	7.7	<50
	2/6/03	147.00	9.68	137.32	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<50
	5/1/03	147.00	7.78	139.22	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<50
	8/1/03	147.00	12.76	134.24	<50	74	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	--	--
	11/10/03	147.00	16.95	130.05	<50	72	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<50
	2/4/04	147.00	10.16	136.84	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--
	6/28/04	147.00	13.11	133.89	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--
	9/8/04	147.00	15.47	131.53	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--
	12/2/04	147.00	17.02	129.98	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--
	3/27/05	147.00	13.23	133.77	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--
	6/14/05	147.00	11.61	135.39	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--
	9/13/05	147.00	14.73	132.27	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--
	12/28/05	147.00	8.66	138.34	<50	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--

Table 3
GROUNDWATER ELEVATION AND
ANALYTICAL RESULTS
Former Central BP Station
2160 Central Ave.
Mckinleyville, California
Project No. NC-24

Well No.	Sampling Date	TOC (feet)	DTW (feet)	GWE (feet)	TPHg (µg/L)	TPHd (µg/L)	TPHmo (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	DIPE (µg/L)	TAME (µg/L)	ETBE (µg/L)	TBA (µg/L)	Ethanol (µg/L)	Methanol (µg/L)
MW-10 Screen 5'-25'	8/17/01	148.36	18.23	130.13	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<50
	10/10/01	148.36	19.14	129.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	11/19/01	148.36	19.78	128.58	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<50
	12/27/01	148.36	17.53	130.83	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	1/14/02	148.36	15.73	132.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/4/02	148.36	14.23	134.13	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<50
	3/14/02	148.36	11.24	137.12	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	4/4/02	148.36	10.84	137.52	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/7/02	148.36	11.74	136.62	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<50
	7/23/02	147.17	14.81	132.36	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/5/02	147.17	15.21	131.96	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<50
	11/18/02	147.17	18.16	129.01	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<50
	2/6/03	147.17	10.99	136.18	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<50
	5/1/03	147.17	8.33	138.84	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<50
	8/1/03	147.17	12.59	134.58	<50	86	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	--	--
	11/10/03	147.17	17.55	129.62	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<50
	2/4/04	147.17	11.07	136.10	<50	96	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--
	6/28/04	147.17	13.23	133.94	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--
	9/8/04	147.17	16.07	131.10	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--
	12/2/04	147.17	17.77	129.40	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--
MW-11 Screen 5'-25'	3/27/05	147.17	14.17	133.00	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--
	6/14/05	147.17	12.43	134.74	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--
	9/13/05	147.17	16.18	130.99	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--
	12/28/05	147.17	12.46	134.71	<50	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--
	8/17/01	147.99	18.28	129.71	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<50
	10/10/01	147.99	19.21	128.78	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	11/19/01	147.99	19.83	128.16	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<50
	12/27/01	147.99	17.49	130.50	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	1/14/02	147.99	15.45	132.54	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/4/02	147.99	14.07	133.92	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<50
	3/14/02	147.99	11.71	136.28	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	4/4/02	147.99	11.19	136.80	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/7/02	147.99	11.80	136.19	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<50
	7/23/02	146.79	14.91	131.88	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/5/02	146.79	15.39	131.40	<50	58	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<50
	11/18/02	146.79	18.31	128.48	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<50
	2/6/03	146.79	11.65	135.14	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<50
	5/1/03	146.79	8.80	137.99	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<50
	8/1/03	146.79	12.59	134.20	<50	79	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	--	--
	11/10/03	146.79	17.71	129.08	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<50
	2/4/04	146.79	11.64	135.15	<50	95	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--
	6/28/04	146.79	13.18	133.61	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--
	9/8/04	146.79	16.26	130.53	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--
	12/2/04	146.79	17.90	128.89	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--
	3/27/05	146.79	14.45	132.34	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--
	6/14/05	146.79	12.54	134.25	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--
	9/13/05	146.79	16.07	130.72	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--
	12/28/05	146.79	13.03	133.76	<50	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--

Table 3
GROUNDWATER ELEVATION AND
ANALYTICAL RESULTS
Former Central BP Station
2160 Central Ave.
Mckinleyville, California
Project No. NC-24

Well No.	Sampling Date	TOC (feet)	DTW (feet)	GWE (feet)	TPHg (µg/L)	TPHd (µg/L)	TPHmo (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	DIPE (µg/L)	TAME (µg/L)	ETBE (µg/L)	TBA (µg/L)	Ethanol (µg/L)	Methanol (µg/L)
MW-12	8/17/01	147.93	18.31	129.62	590	<300	--	19	<0.5	<0.5	<0.5	19	<0.5	0.97	<0.5	38	<5	63
	10/10/01	147.93	19.20	128.73	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Screen	11/19/01	147.93	19.77	128.16	280	<150	--	7.9	<0.5	<0.5	<0.5	20	<0.5	1.3	<0.5	25	<5	<50
5'-25'	12/27/01	147.93	16.99	130.94	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	1/14/02	147.93	14.62	133.31	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2/4/02	147.93	13.29	134.64	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<50
	3/14/02	147.93	10.51	137.42	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	4/4/02	147.93	10.63	137.30	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	5/7/02	147.93	11.80	136.13	600	<100	--	22	<0.5	2.2	<0.5	0.92	<0.5	<0.5	<0.5	<5	<5	<50
	7/23/02	146.74	15.16	131.58	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	8/5/02	146.74	15.55	131.19	1,000	<200	--	49	0.71	37	20	3.7	<0.5	<0.5	<0.5	6.8	<5	<100
	11/18/02	146.74	18.36	128.38	99	<50	--	1	<0.5	<0.5	1.2	7.2	<0.5	0.59	<0.5	10	<5	<50
	2/6/03	146.74	10.19	136.55	560	<200	--	10	<0.5	4.8	<0.5	<1	<0.5	<0.5	<0.5	<5	<5	<50
	5/1/03	146.74	8.17	138.57	270	<100	--	9.3	<0.5	0.64	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<50
	8/1/03	146.74	13.52	133.22	770	<300	--	28	<0.5	16	<0.5	1.1	<0.5	<0.5	<0.5	<5	--	--
	11/10/03	146.74	17.80	128.94	600	<200	--	12	<0.5	0.57	<0.5	0.69	<0.5	<0.5	<0.5	<5	<5	<50
	2/4/04	146.74	10.55	136.19	240	140	--	7.2	<0.5	4.3	<0.5	<0.5	--	--	--	--	--	--
	6/28/04	146.74	13.83	132.91	670	<200	--	7.4	<0.5	20	<0.5	<0.5	--	--	--	--	--	--
	9/8/04	146.74	16.37	130.37	970	<300	--	23	<0.5	27	<0.5	0.52	--	--	--	--	--	--
	12/2/04	146.74	17.91	128.83	<50	<50	--	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--
	3/27/05	146.74	13.70	133.04	740	<200	--	10	<0.5	41	0.61	<0.5	--	--	--	--	--	--
	6/14/05	146.74	12.55	134.19	330	<50	--	2.8	<0.5	7.7	<0.5	<0.5	--	--	--	--	--	--
	9/13/05	146.74	16.64	130.10	300	<50	--	12	<0.5	1.7	<0.5	<0.5	--	--	--	--	--	--
	12/28/05	146.74	11.55	135.19	370	--	--	3	1.9	3.6	17	<0.5	--	--	--	--	--	--
				MCL	--	--	--	1	150	300	1,750	5						
				taste & odor threshold	5	100	--	--	42	29	17	5						
				NCRWQCB Cleanup Goals	<50	100	--	0.50	42	29	17	5						

Notes:

New well survey per geotracker performed in July 2002 (NGS(PID#LV1170) Aluminum Cap HPGNDCA0109 (Vista Point, Hwy 101)
DTW data for the 9/13/05 sampling event was collected on 9/14/05 following redevelopment and sampling of MW-7 (all wells except MW-7 sampled on 9/13/05)
TOC: Top of casing referenced to benchmark at (NGS(PID#LV1170) Vista Point, Hwy 101).
DTW: Depth to water as referenced to benchmark.
GWE: Ground water elevation as referenced to benchmark
µg/L=micrograms per liter
"--": Not analyzed, available, and / or applicable
MCL: Maximum contaminant level, an enforceable drinking water standard
Taste & odor threshold: A drinking water standard
NCRWQCB: North Coast Regional Water Quality Control Board
TPHg: Total petroleum hydrocarbons as gasoline by EPA Method 8260B
TPHmo: Total petroleum hydrocarbons as motor oil by EPA Method 3550/8015M
TPHd: Total petroleum hydrocarbons as diesel by EPA Method 3550/8015M
MTBE: Methyl tertiary butyl ether by EPA Method 8260B
DIPE: Di-isopropyl ether by EPA Method 8260B
TAME: Tertiary amyl methyl ether by EPA Method 8260B
ETBE: Ethyl tertiary butyl ether by Method 8260B
TBA: Tertiary butyl alcohol by EPA Method 8260B

Table 4
WELL CONSTRUCTION DATA

Former Central BP Station
2160 Central Ave
McKinleyville, California
Blue Rock Project No. NC-24

Well Identification	Date Installed	Installed by	Casing Diameter (inches)	Total Depth (feet)	Blank Interval (feet)	Screened Interval (feet)	Slot Size (inches)	Filter Pack (feet)	Bentonite Seal (feet)	Cement (feet)
MW-1	7/20/99	Clearwater	2	25	0-5	5-25	0.02	4-25	3-4	0-3
MW-2	7/20/99	Clearwater	2	25	0-5	5-25	0.02	4-25	3-4	0-3
MW-3	7/20/99	Clearwater	2	25	0-5	5-25	0.02	4-25	3-4	0-3
MW-4	8/30/00	Clearwater	2	25	0-5	5-25	0.02	4-25	3-4	0-3
MW-5	8/30/00	Clearwater	2	25	0-5	5-25	0.02	4-25	3-4	0-3
MW-6	8/30/00	Clearwater	2	25	0-5	5-25	0.02	4-25	3-4	0-3
MW-7	8/30/00	Clearwater	2	25	0-5	5-25	0.02	4-25	3-4	0-3
MW-8	8/6/01	Clearwater	2	25	0-5	5-25	0.02	4-25	3-4	0-3
MW-9	8/6/01	Clearwater	2	25	0-5	5-25	0.02	4-25	3-4	0-3
MW-10	8/6/01	Clearwater	2	25	0-5	5-25	0.02	4-25	3-4	0-3
MW-11	8/6/01	Clearwater	2	25	0-5	5-25	0.02	4-25	3-4	0-3
MW-12	8/6/01	Clearwater	2	25	0-5	5-25	0.02	4-25	3-4	0-3
VEW-1	9/24/03	Clearwater	2	20	0-5	5-20	0.02	4-20	3-4	0-3
VEW-2	9/24/03	Clearwater	2	20	0-5	5-20	0.02	4-20	3-4	0-3
VEW-3	9/24/03	Clearwater	2	20	0-5	5-20	0.02	4-20	3-4	0-3
VEW-4	9/24/03	Clearwater	2	20	0-5	5-20	0.02	4-20	3-4	0-3
VEW-5	9/24/03	Clearwater	2	20	0-5	5-20	0.02	4-20	3-4	0-3
SW-1	9/25/03	Clearwater	2	30	0-28	28-30	0.02	27-30	25.5 - 27	0-25.5
SW-2	9/25/03	Clearwater	2	30	0-28	28-30	0.02	27-30	25.5 - 27	0-25.5
SW-3	9/25/03	Clearwater	2	30	0-28	28-30	0.02	27-30	25.5 - 27	0-25.5
SW-4	9/25/03	Clearwater	2	30	0-28	28-30	0.02	27-30	25.5 - 27	0-25.5
SW-5	9/25/03	Clearwater	2	30	0-28	28-30	0.02	27-30	25.5 - 27	0-25.5
SW-6	9/25/03	Clearwater	2	30	0-28	28-30	0.02	27-30	25.5 - 27	0-25.5

Table 5
SVE AIR SAMPLE ANALYTICAL RESULTS
 ATC Permit #: NAC - 380
 Former Central BP
 2160 Central Avenue
 McKinleyville, California
 Blue Rock Project No. NC-24

Sample I.D.	Sample Date	TPHg (mg/m3)	B (mg/m3)	T (mg/m3)	E (mg/m3)	X (mg/m3)	MTBE (mg/m3)
Inf 7/6/04 (all wells)	7/6/04	4,600	14	75	36	140	<0.5
Influent (all wells)	7/7/04	2,700	6.3	56	34	140	<0.8
VEW-1 Inf	7/8/04	3,500	42	330	82	340	1.6
VEW-2 Inf	7/8/04	2,500	5.3	90	41	190	<0.5
VEW-3 Inf	7/8/04	4,400	4.8	37	34	120	<0.5
VEW-4 Inf	7/8/04	2,200	1.5	13	27	92	<0.25
VEW-5 Inf	7/8/04	860	0.39	5	14	56	<0.2
VEW-6 Inf	7/8/04	98	<0.2	<0.2	<0.2	<0.2	<0.2
Inf 7/8/04 (all wells)	7/8/04	1,500	3.4	36	23	98	<0.25
Influent (all wells)	7/9/04	1,300	<0.4	1.1	12	47	<0.4
Influent 7/15/04	7/15/04	930	0.27	0.97	8.4	31	<0.2
Influent 7/22/04	7/22/04	970	0.3	0.94	8.1	29	<0.2
Influent 7/29/04	7/29/04	1,200	2.6	22	12	54	<0.2
Influent 8/26/04	8/26/04	3,000	5.8	32	17	95	<0.2
Influent 9/22/04	9/22/04	2,300	3.5	26	19	83	<0.6
Influent 10/14/04	10/14/04	2,700	5.8	47	27	110	<0.5
Influent 11/17/04	11/17/04	6,900	12	86	37	120	<0.5
Influent 12/21/04	12/21/04	4,200	29	120	27	94	<0.5
Influent 1/17/05	1/17/05	280	0.38	3	2.3	11	<0.2
Influent 2/7/05	2/7/05	1,600	6.70	52	14	54	<0.2
Influent 3/17/05	3/17/05	400	1.5	9.6	2.2	9.8	<0.2
Influent 3/18/05	3/18/05	1,000	3.8	26	6.7	28	<0.2
Influent 3/21/05	3/21/05	1,000	3.8	31	6.8	34	<0.2
Influent 3/22/05	3/22/05	1,500	5.4	32	7.1	34	<0.2
Influent 5/9/05	5/9/05	380	0.9	5	1.0	6	<0.2
Influent 6/9/05	6/9/05	990	3.6	20	4.0	18	<0.2
Influent 7/21/05	7/21/05	140	0.4	1.6	0.23	3.7	<0.2
Influent 8/30/05	8/30/05	1,200	7.0	37	3.4	26	<0.2
Influent 9/16/05	9/16/05	2,400	3.8	46	13	66	<0.2
Influent 10/27/05	10/26/05	2,100	6.1	62	14	91	<0.25
Influent 11/29/05	11/29/05	400	1.9	22	3.7	36	<0.2
Influent 12/20/05	12/20/05	440	0.4	7	1.1	26	<0.2

Table 5
SVE AIR SAMPLE ANALYTICAL RESULTS
 ATC Permit #: NAC - 380
 Former Central BP
 2160 Central Avenue
 McKinleyville, California
 Blue Rock Project No. NC-24

Sample I.D.	Sample Date	TPHg (mg/m3)	B (mg/m3)	T (mg/m3)	E (mg/m3)	X (mg/m3)	MTBE (mg/m3)
Eff 7/6/04	7/6/04	23	<0.2	0.26	<0.2	<0.2	<0.2
Effluent	7/7/04	<20	<0.2	<0.2	<0.2	<0.2	<0.2
Effluent	7/8/04	260	0.24	4.70	6.4	27	<0.2
Effluent	7/9/04	43	<0.2	0.63	0.17	3.9	<0.2
Effluent 7/15/04	7/15/04	<20	<0.2	<0.2	0.24	1.3	<0.2
Effluent 7/22/04	7/22/04	<20	<0.2	<0.2	<0.2	0.65	<0.2
Effluent 7/29/04	7/29/04	<20	<0.2	<0.2	<0.2	0.45	<0.2
Effluent 8/26/04	8/26/04	<20	<0.2	0.35	<0.2	0.4	<0.2
Effluent 9/22/04	9/22/04	100	0.22	2.6	1.2	6.9	<0.2
Effluent 10/14/04	10/14/04	<20	<0.2	<0.2	<0.2	<0.2	<0.2
Effluent 11/17/04	11/17/04	<20	<0.2	<0.2	<0.2	<0.2	<0.2
Effluent 12/21/04	12/21/04	54	0.32	0.66	<0.2	0.22	<0.2
Effluent 1/17/05	1/17/05	<20	<0.2	<0.2	<0.2	<0.2	<0.2
Effluent 2/7/05	2/7/05	28	0.31	<0.2	<0.2	<0.2	<0.2
Effluent 3/17/05	3/17/05	<20	<0.2	<0.2	<0.2	<0.2	<0.2
Effluent 3/18/05	3/18/05	<20	<0.2	<0.2	<0.2	<0.2	<0.2
Effluent 3/21/05	3/21/05	24	<0.2	0.46	<0.2	<0.2	<0.2
Effluent 3/22/05	3/22/05	27	<0.2	0.34	<0.2	<0.2	<0.2
Effluent 5/9/05	5/9/05	<20	<0.2	<0.2	<0.2	<0.2	<0.2
Effluent 6/9/05	6/9/05	<20	<0.2	<0.2	<0.2	<0.2	<0.2
Effluent 7/21/05	7/21/05	<20	<0.2	<0.2	<0.2	<0.2	<0.2
Effluent 8/30/05	8/30/05	22	<0.2	0.43	<0.2	<0.2	<0.2
Effluent 9/16/05	9/16/05	<20	<0.2	<0.2	<0.2	<0.2	<0.2
Effluent 10/27/05	10/26/05	<20	<0.2	<0.2	<0.2	<0.2	<0.2
Effluent 11/29/05	11/29/05	<20	<0.2	<0.2	<0.2	<0.2	<0.2
Effluent 12/20/05	12/20/05	<20	<0.2	<0.2	<0.2	<0.2	<0.2

Notes:

SVE Soil vapor extraction and treatment system - 250 cfm catalytic oxidizer (cattox)
 Influent Air sample collected from cattox influent
 Effluent Air sample collected from cattox effluent
 Ops Time Cattox cumulative site operational hours
 mg/m3 Milligrams per cubic meter
 <#.# Compound not detected at or below the reported laboratory detection limit
 TPHg Total Petroleum Hydrocarbons as gasoline EPA Method 8260B
 BTEX Benzene, Toluene, Ethylbenzene, and Total Xylenes by EPA Method 8260B
 MTBE Methyl tert-Butyl Ether by EPA Method 8260B

Table 6
SVE OPERATIONAL DATA
 ATC Permit #: NAC - 380
 Former Central BP
 2160 Central Avenue
 Eureka California
 Blue Rock Project No. NC-24

Sample Location	Sample Date	Total Ops Time (hr)	Period Ops Time (hr)	TPHg (mg/m3)	SVE Wells On	Manifold Vacuum (in. w.c.)	Flow (scfm)	TPHg Yield (lb/hr)	Average TPHg Yield (lb/hr)	Average TPHg Yield (lbs/day)	Period Yield (lb)	Cumulative Yield (lb)
Influent	7/6/04	3.50	3.50	4,600	VW-1, 2, 3, 4, 5, 6	29.0	158	2.72	2.72	65.35	10	10
Influent	7/7/04	21.2	17.7	2,700	VW-1, 2, 3, 4, 5, 6	30.0	194	1.96	2.34	56.22	41	51
Influent	7/8/04	47.0	25.8	1,500	VW- 2, 4, 6	35.0	182	1.02	1.49	35.82	39	90
Influent	7/9/04	71.6	24.6	1,300	VW- 2, 4, 6	35.0	178	0.87	0.94	22.67	23	113
Influent	7/15/04	217.0	145.4	930	VW- 2, 4, 6	35.0	183	0.64	0.75	18.05	109	223
Influent	7/22/04	386.1	169.1	970	VW- 2, 4, 6	35.0	237	0.86	0.75	17.99	127	349
Influent	7/29/04	553.0	166.9	1,200	VW-1, 2, 3, 4, 5, 6	35.0	199	0.89	0.88	21.07	147	496
Influent	8/26/04	1,150.0	597.0	3,000	VW-1, 2, 3, 4, 5, 6	35.0	150	1.69	1.29	30.96	770	1,266
Influent	9/22/04	1,793.0	643.0	2,300	VW-1, 2, 3, 4, 5, 6	35.0	118	1.02	1.35	32.43	869	2,135
Influent	10/14/04	2,322.0	529.0	2,700	VW -1,4,6	35.0	257	2.60	1.81	43.39	956	3,091
Influent	11/17/04	3,000.0	678.0	6,900	VW -2,3,5	22.0	140	3.62	3.11	74.62	2108	5,199
Influent	12/21/04	3,430.0	430.0	4,200	VW- 3,4,6	15.0	180	2.83	3.23	77.41	1387	6,586
Influent	1/17/05	4,016.0	586.0	280	VW- 3,4,5,6	20.0	222	0.23	1.53	36.78	898	7,484
Influent	2/7/05	4,471.0	455.0	1,600	VW- 3,4,5,6	15.0	207	1.24	0.74	17.68	335	7,820
Influent	3/17/05	4,505.0	34.0	400	VW- 3,4,5,6	30.0	262	0.39	0.82	19.60	28	7,847
Influent	3/18/05	4,533.0	28.0	1,000	VW- 3,4,5,6	30.0	282	1.06	0.72	17.39	20	7,868
Influent	3/21/05	4,557.0	24.0	1,000	VW- 3,4,5,6	22.0	268	1.00	1.03	24.72	25	7,892
Influent	3/22/05	4,565.0	8.0	1,500	VW- 3,4,5,6	20.0	252	1.42	1.21	29.04	10	7,902
Influent	5/9/05	4,860.0	295.0	380	VW- 3,4,5,6	15.0	244	0.35	0.88	21.16	260	8,162
Influent	6/9/05	5,520.0	660.0	990	VW- 3,4,5,6	15.0	223	0.83	0.59	14.09	388	8,550
Influent	7/21/05	6,370.0	850.0	140	VW- 3,4,5,6	15.0	222	0.12	0.47	11.32	401	8,951
Influent	8/30/05	7,258.0	888.0	1,200	VW- 3,4,5,6	15.0	202	0.91	0.51	12.29	455	9,406
Influent	9/16/05	7,402.0	144.0	2,400	VW- 3,4,5,6	15.0	273	2.45	1.68	40.35	242	9,648
Influent	10/27/05	8,077.0	675.0	2,100	VW- 3,4,5,6	15.0	251	1.97	2.21	53.15	1495	11,143
Influent	11/29/05	8,867.0	790.0	400	VW- 3,4,5,6	15.0	235	0.35	1.16	27.92	919	12,062
Influent	12/20/05	9,271.0	404.0	440	VW- 3,4,5,6	15.0	208	0.34	0.35	8.34	140	12,201

Cumulative TPHg Recovery (pounds)	12,201
Cumulative TPHg Recovery (gallons)	2,007

Notes:

SVE Soil vapor extraction and treatment system - 250 cfm catalytic oxidizer (catox)

Influent Air sample collected from thermox influent

Total Ops Time thermox cumulative site operational hours

Period Ops Time Operational period: number of system operating hours since last influent air sampling

TPHg Total Petroleum Hydrocarbons as gasoline EPA Method 8260B

mg/m3 Milligrams per cubic meter

<### Compound not detected at or below the reported laboratory detection limit

Vacuum Vacuum applied to well manifold

in. w.c. Inches water column

Flow Process volumetric flow (Q) measured with a flow averaging pitot tube

scfm Standard cubic feet per minute

lb Pound

TPHg Yield Approximate TPHg yield (lb/hr) based on influent analytical data and air flow (Q) for a given date
 Yield (lbs/hr) = Influent concentration (mg/m3) x Q (scfm) x (m3/35.31 ft3) x 60 min/hr x lb/453,592 mg
 Yield (lbs/day) = Yield (lbs/hr) x (24 hr/day)

Avg. TPHg Yield Average hydrocarbon yield during a given operational period;
 based upon arithmetic average of TPHg yield at beginning and end of operational period.

Period Yield The Period Ops Time (hr) x Average TPHg yield (lbs/hr) during that period.
 Note that this value is an approximation only, and may not account for daily fluctuations in yield.

Cumulative Recovery Estimated Estimated total SVE system TPHg recovery since startup.

Table 7
SVE CATOX SYSTEM TREATMENT DATA

ATC Permit #: NAC - 380

Former Central BP

2160 Central Avenue

Blue Rock Project No. NC-24

	Sample Date	Ops Time (hr)	TPHg (mg/m3)	TPHg DE (%)	Flow (scfm)	Daily Emissions Rate TPHg (lb/day)
AQMD Permit Requirements:	monthly	NA	NA	NA	<250	219.12
Influent	7/6/04		4,600			
Effluent	7/6/04	3.50	23	99.5%	158	0.33
Influent	7/7/04		2,700			
Effluent	7/7/04	21	<20	>99.3%*	194	<0.35*
Influent	7/8/04		1,500			
Effluent	7/8/04	47	260	82.7%	182	4.25
Influent	7/9/04		1,300			
Effluent	7/9/04	72	43	96.7%	178	0.69
Influent	7/15/04		930			
Effluent	7/15/04	217	<20	>97.8%*	183	<0.33*
Influent	7/22/04		970			
Effluent	7/22/04	386	<20	>97.9%*	237	<0.43*
Influent	7/29/04		1,200			
Effluent	7/29/04	553	<20	>98.3%*	199	<0.36*
Influent	8/26/04		3,000			
Effluent	8/26/04	1,150	<20	>99.3%*	150	<0.27*
Influent	9/22/04		2,300			
Effluent	9/22/04	1,793	100	95.7%	118	1.06
Influent	10/14/04		2,700			
Effluent	10/14/04	2,322	<20	>99.3%*	257	<0.46*
Influent	11/17/04		6,900			
Effluent	11/17/04	3,000	<20	>99.7%*	140	<0.25*
Influent	12/21/04		4,200			
Effluent	12/21/04	3,430	<20	>99.5%*	180	<0.32*
Influent	1/17/05		280			
Effluent	1/17/05	4,016	<20	>92.9%*	222	<0.40*
Influent	2/7/05		1,600			
Effluent	2/7/05	4,471	28	98.3%	207	0.52
Influent	3/17/05		400			
Effluent	3/17/05	4,505	<20	>95.0%*	262	<0.47*
Influent	3/18/05		1,000			
Effluent	3/18/05	4,533	<20	>98.0%*	282	0.51
Influent	3/21/05		1,000			
Effluent	3/21/05	4,557	24	97.6%	268	<0.58*
Influent	3/22/05		1,500			
Effluent	3/22/05	4,565	27	98.2%	252	0.61
Influent	5/9/05		380			
Effluent	5/9/05	4,860	<20	>94.7%*	244	<0.44*

Table 7
SVE CATOX SYSTEM TREATMENT DATA

ATC Permit #: NAC - 380

Former Central BP

2160 Central Avenue

Blue Rock Project No. NC-24

	Sample Date	Ops Time (hr)	TPHg (mg/m3)	TPHg DE (%)	Flow (scfm)	Daily Emissions Rate TPHg (lb/day)
AQMD Permit Requirements:	monthly	NA	NA	NA	<250	219.12
Influent	6/9/05	5,520	990			
Effluent	6/9/05		<20	>98.0%*	223	<0.40*
Influent	7/21/05	6,370	140			
Effluent	7/21/05		<20	>85.7%*	222	<0.40*
Influent	8/30/05	7,258	1,200			
Effluent	8/30/05		22	98.3%	202	0.40
Influent	9/16/05	7,402	2,400			
Effluent	9/16/05		<20	>99.2%*	273	<0.49*
Influent	10/27/05	8,077	2,100			
Effluent	10/27/05		<20	>99.0%*	251	<0.42*
Influent	11/29/05	8,867	400			
Effluent	11/29/05		<20	>95.0%*	235	<0.45*
Influent	12/20/05	9,271	440			
Effluent	12/20/05		<20	>95.0%*	208	<0.37*
				Avg. TPHg DE (%)	Avg. Flow (cfm)	Avg. Daily Emissions TPHg (lb/day)
				>92.9%	213	<0.60

System Operations/Emissions In Compliance: YES

Notes:

SVE Soil vapor extraction and treatment system - 250 cfm catalytic oxidizer (catox)
 Influent Air sample collected from catox influent
 Effluent Air sample collected from catox effluent (exhaust)
 Ops Time catox cumulative site operational hours
 TPHg Total Petroleum Hydrocarbons as gasoline by EPA Method 8260B
 mg/m3 Milligrams per cubic meter
 <#.## Compound not detected at or below the reported laboratory detection limit
 Avg. Average (averages based on monthly and startup data)
 Flow Process volumetric flow (Q) measured with a flow averaging pitot tube
 scfm Standard cubic feet per minute
 lb Pound
 TPHg DE TPHg (laboratory analyzed) destruction efficiency based on equation :

$$\text{TPHg DE} = (\text{influent concentration TPHg} - \text{effluent concentration TPHg}) / \text{influent concentration TPHg} \times 100$$

 Emissions Rate Analyte Emissions Rate (lb/day) based upon effluent analytical data and air flow volume (Q) for a given date

$$\text{Emiss. Rate} = \text{Effluent concentration (mg/m}^3\text{)} \times \text{Q (scfm)} \times (\text{m}^3/35.31 \text{ ft}^3) \times 1440 \text{ min/day} \times \text{lb}/453,592 \text{ mg}$$

$$\text{Emiss. Rate} = \text{Effluent concentration (mg/m}^3\text{)} \times \text{Q (scfm)} \times 8.9908 \text{ E-5}$$

* Indicates that detection limit of "non-detect" effluent sample was used as concentration value to calculate DE and emissions as most conservative, worst-case scenario.

Table 8
SVE CATOX EMISSIONS CALCULATIONS
 ATC Permit # NAC - 380
 Former Central BP
 2160 Central Ave.
 McKinleyville, CA
 Blue Rock Project No. NC - 24

Effluent Contaminant Concentrations

Sample ID	TPHg (mg/m ³)	TPHg (ppmv)	Benzene (mg/m ³)	Benzene (ppmv)	Toluene (mg/m ³)	Toluene (ppmv)	Ethylbenz. (mg/m ³)	Ethylbenz. (ppmv)	Xylenes (mg/m ³)	Xylenes (ppmv)	MTBE (mg/m ³)	MTBE (ppmv)
AQMD Limits		3,569		0.138		2.4		2.74		11.61		0.069
EFF 7/6/04	23	5.4	0.20	0.050	0.26	0.063	0.20	0.050	0.20	0.050	0.20	0.10
EFF 7/7/04	20	5.0	0.20	0.050	0.20	0.050	0.20	0.050	0.20	0.050	0.20	0.10
EFF 7/8/04	260	61	0.24	0.068	4.70	1.15	6.4	1.4	27	5.8	0.20	0.10
EFF 7/9/04	43	10	0.20	0.050	0.63	0.15	0.79	0.17	3.9	0.82	0.20	0.10
EFF 7/15/04	20	5.0	0.20	0.050	0.20	0.050	0.24	0.051	1.3	0.28	0.20	0.10
EFF 7/22/04	20	5.0	0.20	0.050	0.20	0.050	0.20	0.050	0.65	0.14	0.20	0.10
EFF 7/29/04	20	5.0	0.20	0.050	0.20	0.050	0.20	0.050	0.45	0.095	0.20	0.10
EFF 8/26/04	20	5.0	0.20	0.050	0.35	0.084	0.20	0.050	0.40	0.10	0.20	0.10
EFF 9/22/04	100	24	0.22	0.063	2.60	0.64	1.2	0.24	6.9	1.5	0.20	0.10
EFF 10/14/04	20	5.0	0.20	0.050	0.20	0.050	0.20	0.050	0.20	0.050	0.20	0.10
EFF 11/17/04	20	5.0	0.20	0.050	0.20	0.050	0.20	0.050	0.20	0.050	0.20	0.10
EFF 12/21/04	54	13	0.32	0.093	0.66	0.16	0.20	0.050	0.20	0.050	0.20	0.10
EFF 1/17/05	20	5.0	0.20	0.050	0.20	0.050	0.20	0.050	0.20	0.050	0.20	0.10
EFF 2/7/05	28	6.5	0.20	0.050	0.31	0.075	0.20	0.050	0.20	0.050	0.20	0.10
EFF 3/17/05	20	5.0	0.20	0.050	0.20	0.050	0.20	0.050	0.20	0.050	0.20	0.10
EFF 3/18/05	20	5.0	0.20	0.050	0.20	0.050	0.20	0.050	0.20	0.050	0.20	0.10
EFF 3/21/05	24	6.2	0.20	0.050	0.46	0.12	0.20	0.050	0.20	0.050	0.20	0.10
EFF 3/22/05	27	6.8	0.20	0.050	0.34	0.090	0.20	0.050	0.20	0.050	0.20	0.10
EFF 5/9/05	20	5.0	0.20	0.050	0.20	0.050	0.20	0.050	0.20	0.050	0.20	0.10
EFF 6/9/05	20	5.0	0.20	0.050	0.20	0.050	0.20	0.050	0.20	0.050	0.20	0.10
EFF 7/21/05	20	5.0	0.20	0.050	0.20	0.050	0.20	0.050	0.20	0.050	0.20	0.10
EFF 8/30/05	22	5.5	0.20	0.050	0.43	0.11	0.20	0.050	0.20	0.050	0.20	0.10
EFF 9/16/05	20	5.0	0.20	0.050	0.20	0.050	0.20	0.050	0.20	0.050	0.20	0.10
EFF 10/27/05	20	5.0	0.20	0.050	0.20	0.050	0.20	0.050	0.20	0.050	0.20	0.10
EFF 11/29/05	20	5.0	0.20	0.050	0.20	0.050	0.20	0.050	0.20	0.050	0.20	0.10
EFF 12/20/05	20	5.0	0.20	0.050	0.20	0.050	0.20	0.050	0.20	0.050	0.20	0.10
AQMD Compliance	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes

Note: **Bold** values shown above are actual detected concentrations, whereas plain values shown above are detection limits of "non-detect" samples used for the sake of worst case scenario emissions calculations (actual concentrations are lower).

Table 8
SVE CATOX EMISSIONS CALCULATIONS
 ATC Permit # NAC - 380
 Former Central BP
 2160 Central Ave.
 Mckinleyville, CA
 Blue Rock Project No. NC - 24

Emissions Calculation Variables

	A	B1	B2	B3	B4	B5	B6	C	D	E1	E2	E3	E4	E5	E6
	Q2 (scfm)	TPHg	Benzene	Toluene	Ethylbenz.	Xylenes	MTBE	conversion (min/day)	conversion 1/360	TPHg (mw) (lb/mol)	Benz (mw) (lb/mol)	Toluene (mw) (lb/mol)	Ethylben (mw) (lb/mol)	Xylenes (mw) (lb/mol)	MTBE (mw) (lb/mol)
				ppmv/1,000,000											
EFF 7/6/04	158	0.00001	0.0000001	0.0000001	0.00000005	0.00000005	0.00000010	1440	0.0028	86.2	78.1	106.2	92.1	106.2	88.2
EFF 7/7/04	197	0.00001	0.0000001	0.0000001	0.00000005	0.00000005	0.00000010	1440	0.0028	86.2	78.1	106.2	92.1	106.2	88.2
EFF 7/8/04	182	0.00006	0.0000001	0.0000011	0.00000136	0.00000580	0.00000010	1440	0.0028	86.2	78.1	106.2	92.1	106.2	88.2
EFF 7/9/04	178	0.00001	0.0000001	0.0000002	0.00000017	0.00000082	0.00000010	1440	0.0028	86.2	78.1	106.2	92.1	106.2	88.2
EFF 7/15/04	183	0.00001	0.0000001	0.0000001	0.00000005	0.00000028	0.00000010	1440	0.0028	86.2	78.1	106.2	92.1	106.2	88.2
EFF 7/22/04	237	0.00001	0.0000001	0.0000001	0.00000005	0.00000014	0.00000010	1440	0.0028	86.2	78.1	106.2	92.1	106.2	88.2
EFF 7/29/04	199	0.00001	0.0000001	0.0000001	0.00000005	0.00000009	0.00000010	1440	0.0028	86.2	78.1	106.2	92.1	106.2	88.2
EFF 8/26/04	150	0.00001	0.0000001	0.0000001	0.00000005	0.00000010	0.00000010	1440	0.0028	86.2	78.1	106.2	92.1	106.2	88.2
EFF 9/22/04	118	0.00002	0.0000001	0.0000006	0.00000024	0.00000153	0.00000010	1440	0.0028	86.2	78.1	106.2	92.1	106.2	88.2
EFF 10/14/04	257	0.00001	0.0000001	0.0000001	0.00000005	0.00000005	0.00000010	1440	0.0028	86.2	78.1	106.2	92.1	106.2	88.2
EFF 11/17/04	140	0.00001	0.0000001	0.0000001	0.00000005	0.00000005	0.00000010	1440	0.0028	86.2	78.1	106.2	92.1	106.2	88.2
EFF 12/21/04	180	0.00001	0.0000001	0.0000002	0.00000005	0.00000005	0.00000010	1440	0.0028	86.2	78.1	106.2	92.1	106.2	88.2
EFF 1/17/05	222	0.00001	0.0000001	0.0000001	0.00000005	0.00000005	0.00000010	1440	0.0028	86.2	78.1	106.2	92.1	106.2	88.2
EFF 2/7/05	207	0.00001	0.0000001	0.0000001	0.00000005	0.00000005	0.00000010	1440	0.0028	86.2	78.1	106.2	92.1	106.2	88.2
EFF 3/17/05	262	0.00001	0.0000001	0.0000001	0.00000005	0.00000005	0.00000010	1440	0.0028	86.2	78.1	106.2	92.1	106.2	88.2
EFF 3/18/05	282	0.00001	0.0000001	0.0000001	0.00000005	0.00000005	0.00000010	1440	0.0028	86.2	78.1	106.2	92.1	106.2	88.2
EFF 3/21/05	268	0.00001	0.0000001	0.0000001	0.00000005	0.00000005	0.00000010	1440	0.0028	86.2	78.1	106.2	92.1	106.2	88.2
EFF 3/22/05	252	0.00001	0.0000001	0.0000001	0.00000005	0.00000005	0.00000010	1440	0.0028	86.2	78.1	106.2	92.1	106.2	88.2
EFF 5/9/05	244	0.00001	0.0000001	0.0000001	0.00000005	0.00000005	0.00000010	1440	0.0028	86.2	78.1	106.2	92.1	106.2	88.2
EFF 6/9/05	223	0.00001	0.0000001	0.0000001	0.00000005	0.00000005	0.00000010	1440	0.0028	86.2	78.1	106.2	92.1	106.2	88.2
EFF 7/21/05	222	0.00001	0.0000001	0.0000001	0.00000005	0.00000005	0.00000010	1440	0.0028	86.2	78.1	106.2	92.1	106.2	88.2
EFF 8/30/05	202	0.00001	0.0000001	0.0000001	0.00000005	0.00000005	0.00000010	1440	0.0028	86.2	78.1	106.2	92.1	106.2	88.2
EFF 9/16/05	273	0.00001	0.0000001	0.0000001	0.00000005	0.00000005	0.00000010	1440	0.0028	86.2	78.1	106.2	92.1	106.2	88.2
EFF 10/27/05	251	0.00001	0.0000001	0.0000001	0.00000005	0.00000005	0.00000010	1440	0.0028	86.2	78.1	106.2	92.1	106.2	88.2
EFF 11/29/05	235	0.00001	0.0000001	0.0000001	0.00000005	0.00000005	0.00000010	1440	0.0028	86.2	78.1	106.2	92.1	106.2	88.2
EFF 12/20/05	208	0.00001	0.0000001	0.0000001	0.00000005	0.00000005	0.00000010	1441	0.0028	86.2	78.1	106.2	92.1	106.2	88.2

Table 8
SVE CATOX EMISSIONS CALCULATIONS

ATC Permit # NAC - 380

Former Central BP

2160 Central Ave.

Mckinleyville, CA

Blue Rock Project No. NC - 24

Hydrocarbons Emissions:						
	TPHg (lb/day)	Benzene (lb/day)	Toluene (lb/day)	Ethylbenzene (lb/day)	Xylenes (lb/day)	MTBE (lb/day)
AQMD Permit Limits	219.12	0.0601	1.234	1.621	6.869	0.034
EFF 7/6/04	0.29	0.0001	0.004	0.003	0.003	0.006
EFF 7/7/04	0.34	0.0002	0.004	0.004	0.004	0.007
EFF 7/8/04	3.83	0.0002	0.089	0.091	0.448	0.006
EFF 7/9/04	0.61	0.0002	0.012	0.011	0.062	0.006
EFF 7/15/04	0.32	0.0002	0.004	0.003	0.022	0.006
EFF 7/22/04	0.41	0.0002	0.005	0.004	0.014	0.008
EFF 7/29/04	0.34	0.0002	0.004	0.004	0.008	0.007
EFF 8/26/04	0.26	0.0001	0.005	0.003	0.006	0.005
EFF 9/22/04	0.98	0.0001	0.032	0.011	0.077	0.004
EFF 10/14/04	0.44	0.0002	0.005	0.005	0.005	0.009
EFF 11/17/04	0.24	0.0001	0.003	0.003	0.003	0.005
EFF 12/21/04	0.81	0.0003	0.012	0.003	0.004	0.006
EFF 1/17/05	0.38	0.0002	0.005	0.004	0.005	0.008
EFF 2/7/05	0.46	0.0002	0.007	0.004	0.004	0.007
EFF 3/17/05	0.45	0.0002	0.006	0.005	0.006	0.009
EFF 3/18/05	0.49	0.0003	0.006	0.005	0.006	0.010
EFF 3/21/05	0.57	0.0003	0.014	0.005	0.006	0.009
EFF 3/22/05	0.59	0.0002	0.010	0.005	0.005	0.009
EFF 5/9/05	0.42	0.0002	0.005	0.004	0.005	0.009
EFF 6/9/05	0.38	0.0002	0.005	0.004	0.005	0.008
EFF 7/21/05	0.38	0.0002	0.005	0.004	0.005	0.008
EFF 8/30/05	0.38	0.0002	0.009	0.004	0.004	0.007
EFF 9/16/05	0.47	0.0003	0.006	0.005	0.006	0.010
EFF 10/27/05	0.43	0.0002	0.005	0.005	0.005	0.009
EFF 11/29/05	0.40	0.0002	0.005	0.004	0.005	0.008
EFF 12/20/05	0.36	0.0002	0.004	0.004	0.004	0.007
AQMD Compliance	yes	yes	yes	yes	yes	yes

Note: Emissions rates shown above represent conservative, worst scenario because the effluent concentrations are often "non-detect" and the detection limit is used for calculation of emission rate. Thus, actual emission rate is often lower.

Calculations:

$$\text{TPHg (lb/day)} = A * B1 * C * D * E1$$

$$\text{Benzene (lb/day)} = A * B2 * C * D * E2$$

$$\text{Toluene (lb/day)} = A * B3 * C * D * E3$$

$$\text{Ethylbenzene (lb/day)} = A * B4 * C * D * E4$$

$$\text{Xylenes (lb/day)} = A * B5 * C * D * E5$$

$$\text{MTBE (lb/day)} = A * B6 * C * D * E6$$

where:

A: flow rate in standard cubic feet per minute (scfm)

B1: (Concentration of TPHg in ppmv)/1,000,000

B2: (Concentration of Benzene in ppmv)/1,000,000

B3: (Concentration of Toluene in ppmv)/1,000,000

B4: (Concentration of Ethylbenzene in ppmv)/1,000,000

B5: (Concentration of Xylenes in ppmv)/1,000,000

B6: (Concentration of MTBE in ppmv)/1,000,000

C: Conversion from minutes to day

D: Conversion for standard conditions (Assume Ideal Gas Law holds true)

E1: Molecular weight of TPHg - 86.2 lb/lb-mol

E2: Molecular weight of Benzene - 78.1 lb/lb-mol

E3: Molecular weight of Toluene - 106.2 lb/lb-mol

E4: Molecular weight of Ethylbenzene - 92.1 lb/lb-mol

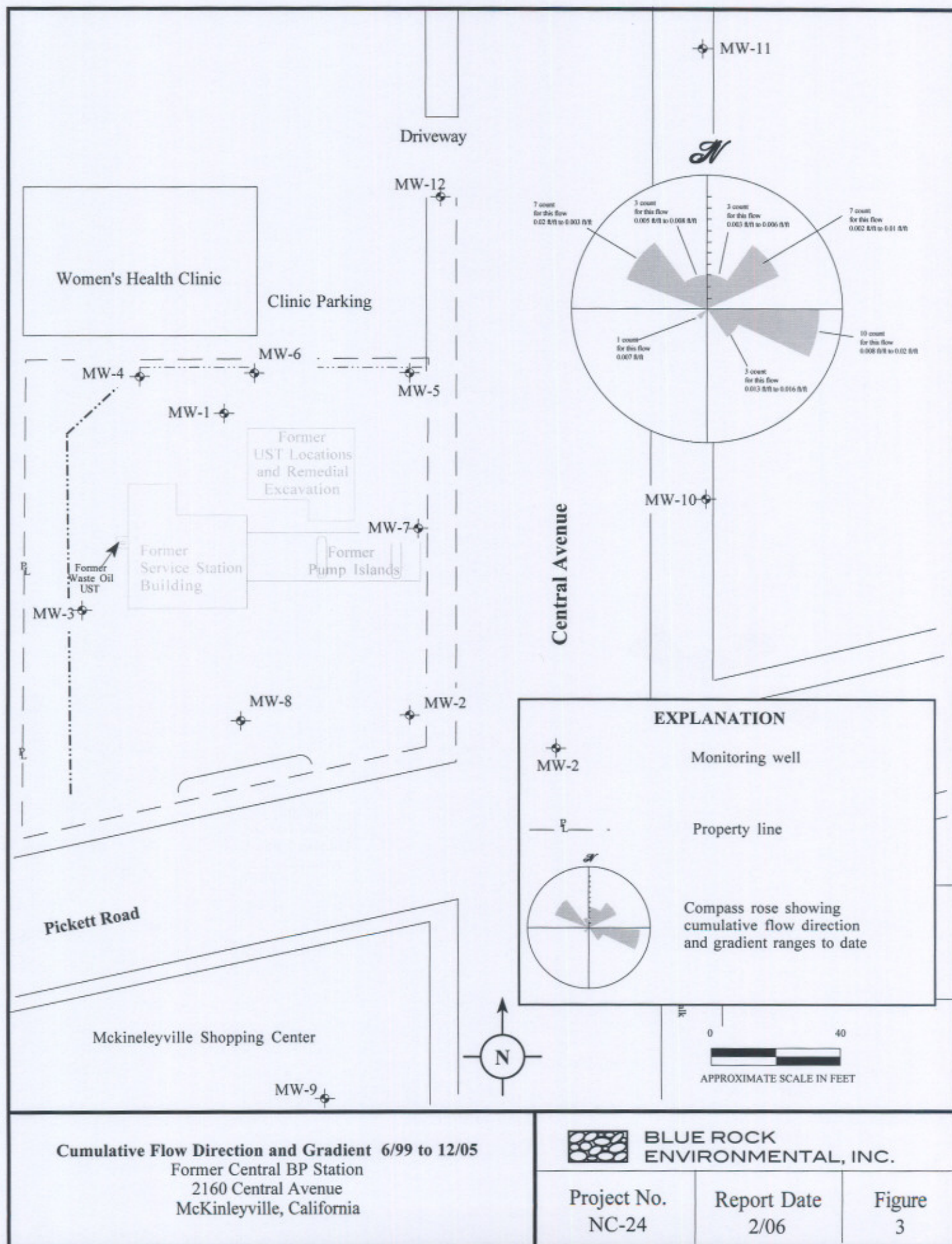
E5: Molecular weight of Xylenes - 106.2 lb/lb-mol

E6: Molecular weight of MTBE - 88.2 lb/lb-mol

Table 9
WELLS LOCATED WITHIN 1,000 FOOT SRS RADIUS
Former Central BP
2160 Central Avenue
McKinleyville, California

Well I.D.	Well Address	Well Use	Year Installed	Well Depth(feet)
1	2244 Terrace Lane	Domestic	1967	54
2	2580 Central Avenue	Domestic	1950	46
3	2331 Central Avenue	Domestic	1964	135
4	2094 Railroad Drive	Irrigation	1963	76
5	Gwin Road	Domestic	1964	124
6	Central Avenue	Industrial	1967	127
7	south of Pickett Road	Domestic	1966	188
8	Central Avenue	Industrial	1965	143
9	Gwin Road	not listed	1968	132
10	Gwin Road	Domestic	1962	132

FIGURES



Cumulative Flow Direction and Gradient 6/99 to 12/05
 Former Central BP Station
 2160 Central Avenue
 McKinleyville, California

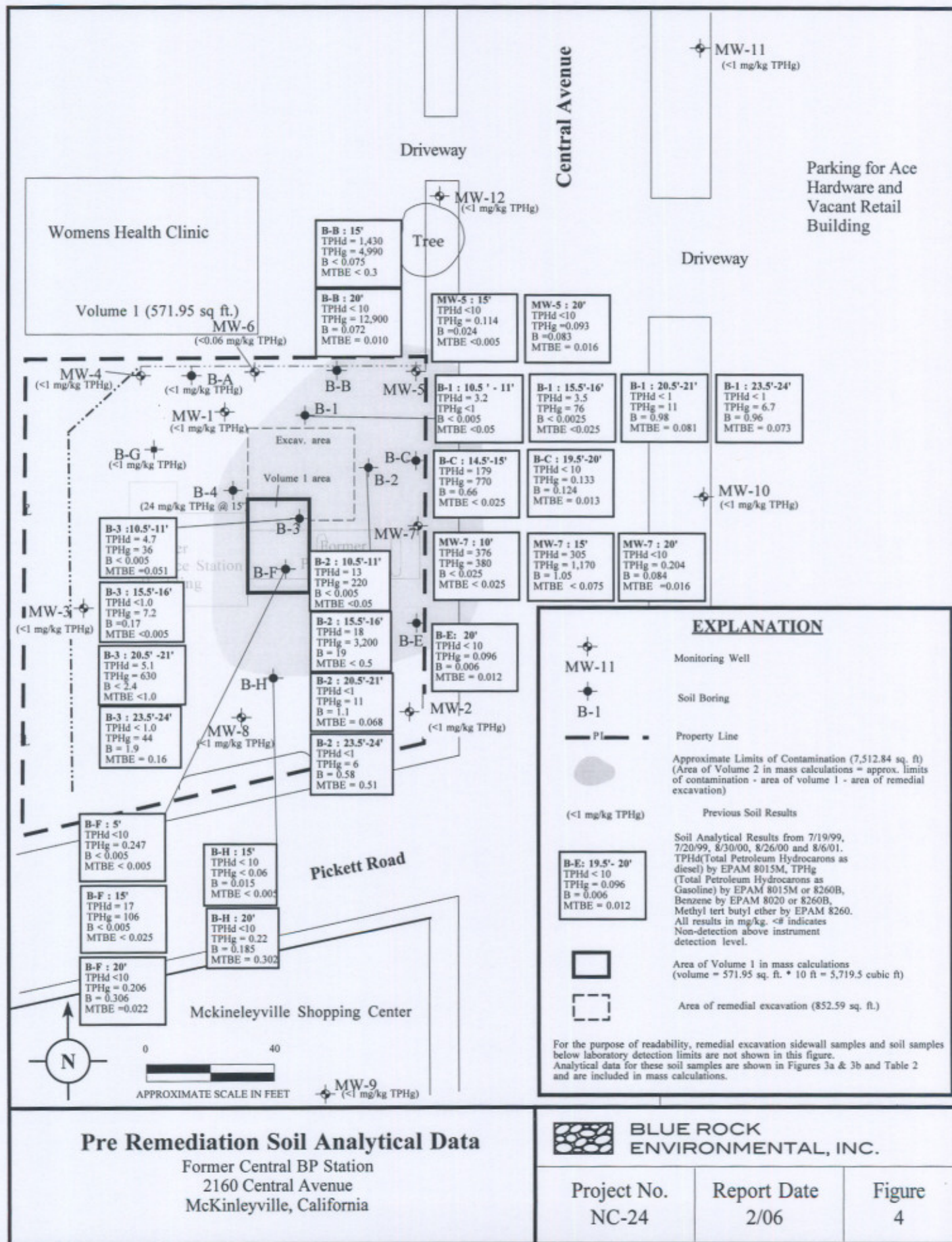


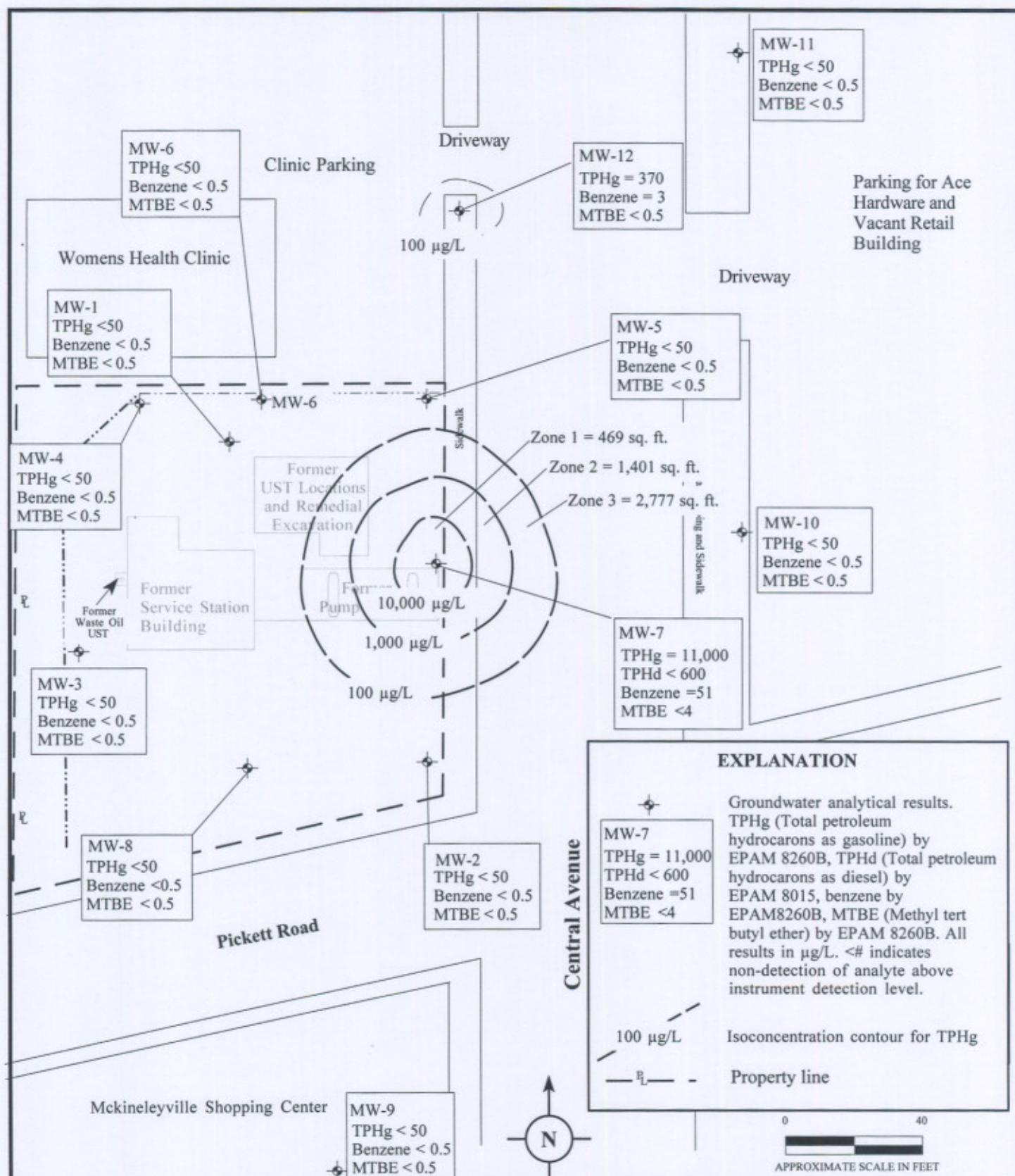
**BLUE ROCK
 ENVIRONMENTAL, INC.**

Project No.
 NC-24

Report Date
 2/06

Figure
 3





Dissolved-Phase Hydrocarbon (TPHg) Distribution 12/28/05

Former Central BP Station
2160 Central Avenue
McKinleyville, California

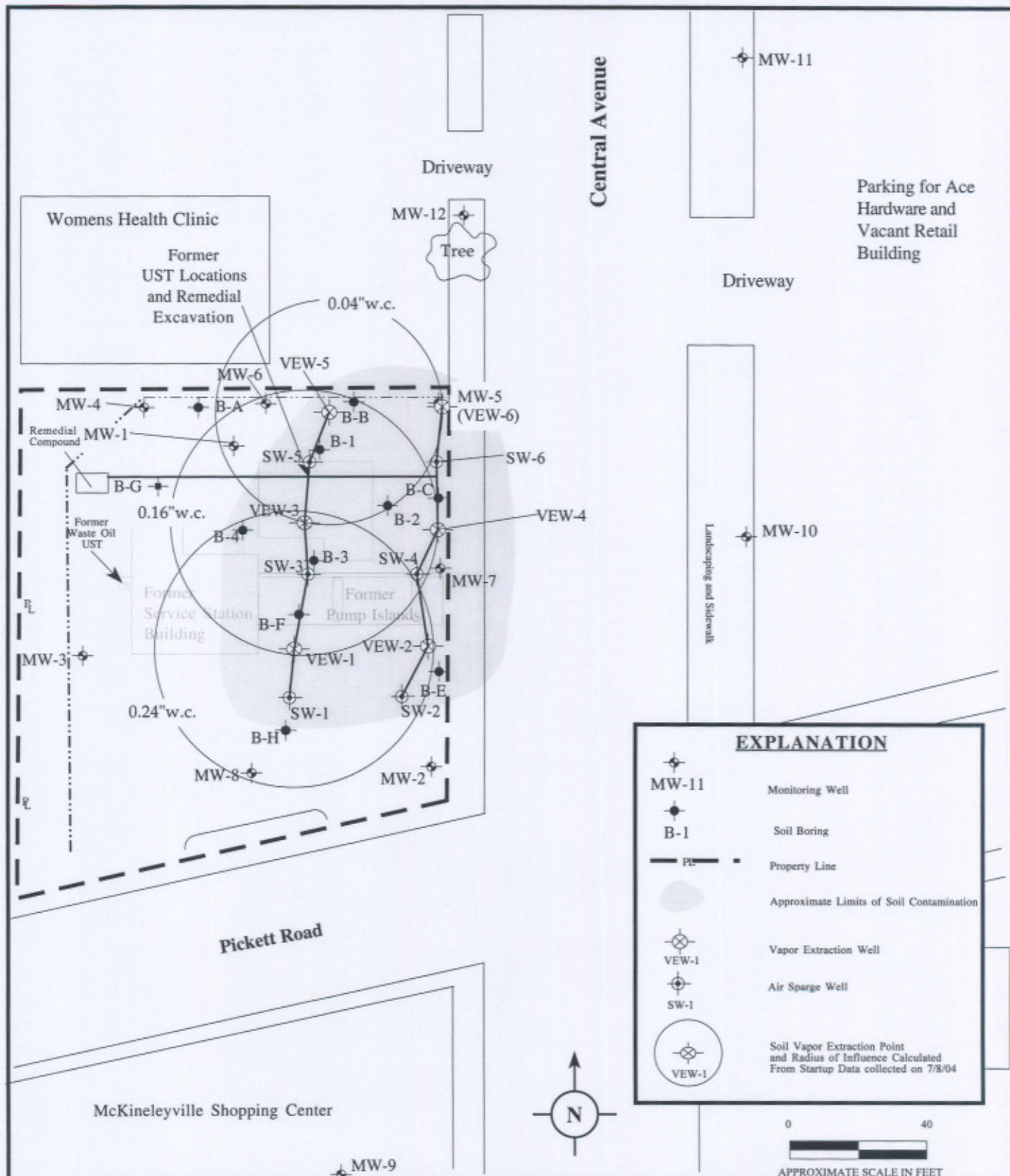


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Project No.
NC-24

Report Date
2/06

Figure
5



SVE Layout and Radius of Influence (VEW1, 3, 5)

Former Central BP Station
2160 Central Avenue
McKinleyville, California

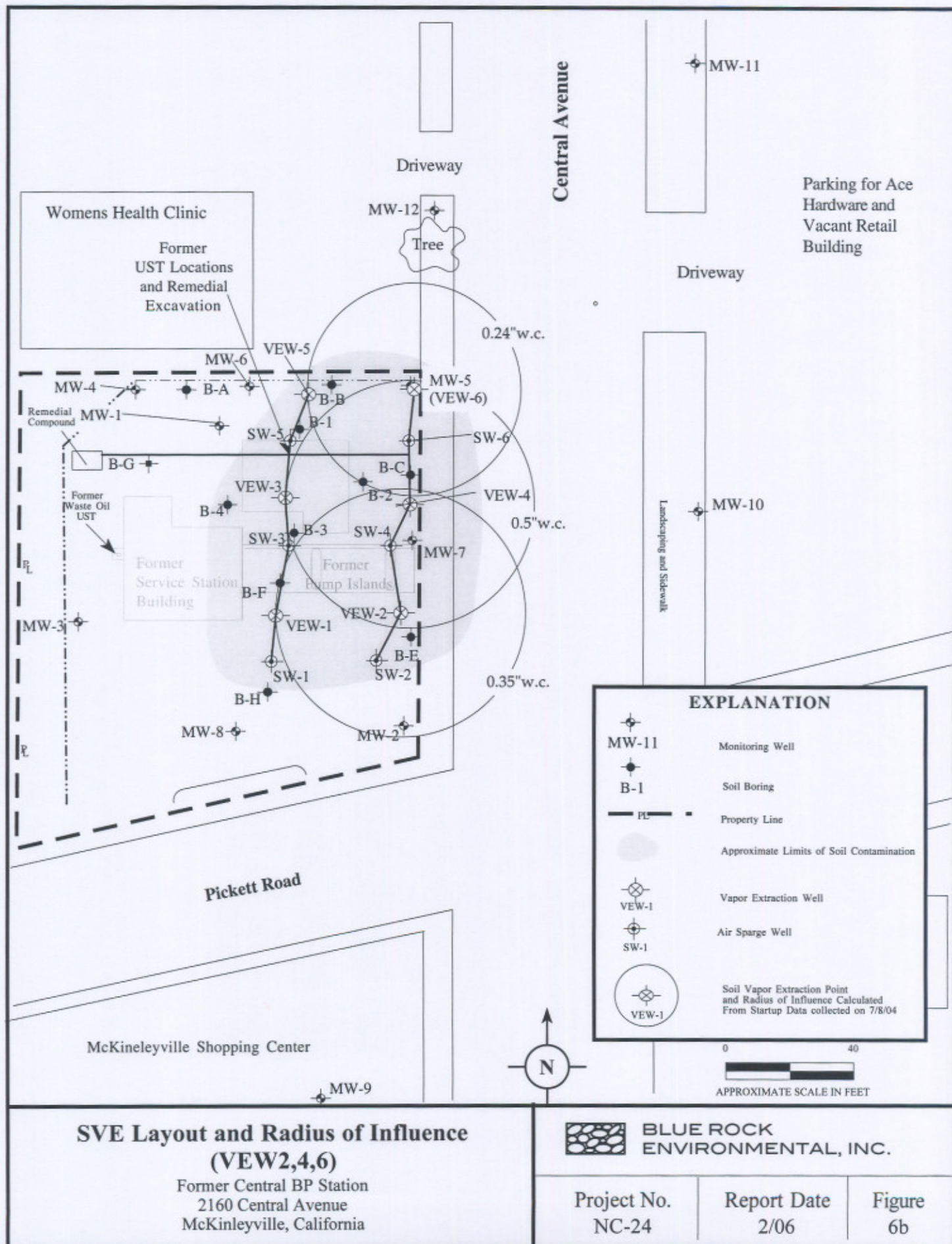


**BLUE ROCK
ENVIRONMENTAL, INC.**

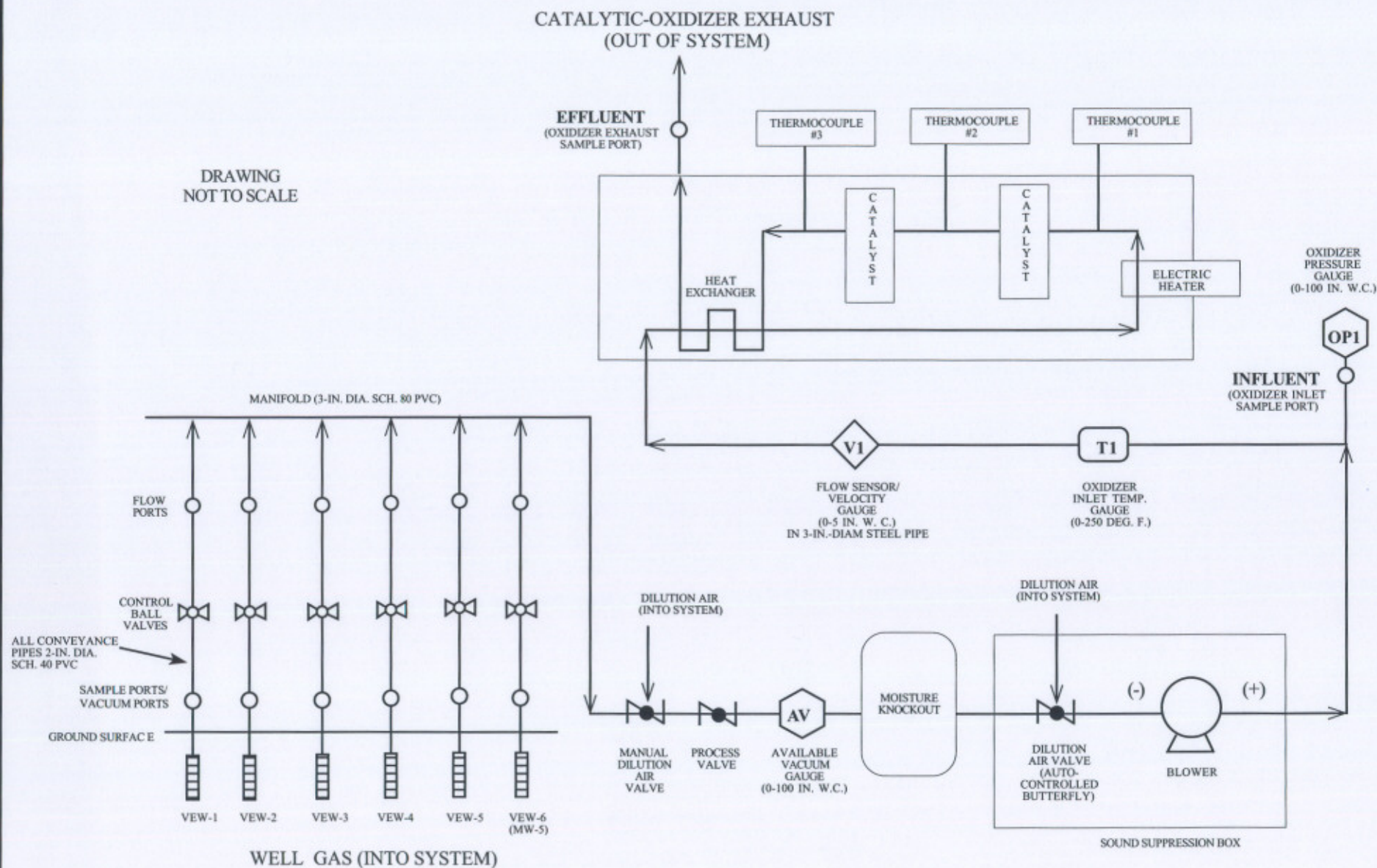
Project No.
NC-24

Report Date
2/06

Figure
6a



DRAWING
NOT TO SCALE



Catox and Well Manifold Schematic
Former Central Bp Station
2616 Central Avenue
Mckinleyville, California

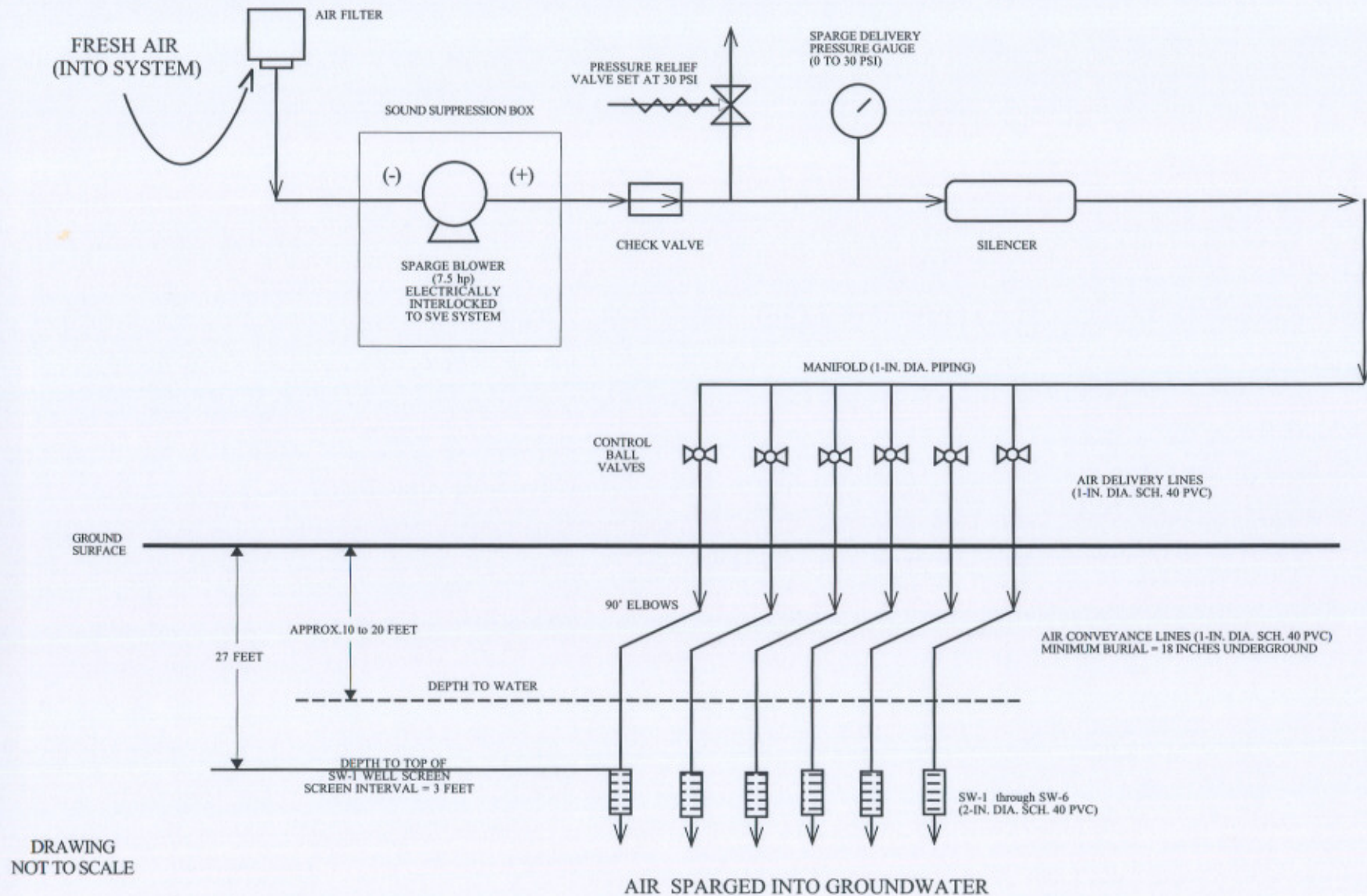


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Project No.
NC-24

Report Date
2/06

Figure
7



Air-Sparge Blower And Well Manifold Schematic

Former Central Bp Station
2616 Central Avenue
Mckinleyville, California



BLUE ROCK
ENVIRONMENTAL, INC.

Project No.
NC-24

Report Date
2/06

Figure
8

APPENDIX A

CGI - FIELD EXPLORATORY SOIL BORING LOG

Project No. E-167

Sheet of

APPROVED BY: _____ LOGGED BY: K. Thiessen DRILLING/WELL CONSTRUCTION: START 2:10 FINISH 3:20

FIELD LOCATION OF BORING:				CLIENT/LOCATION: Pierson/McKinleyville		PLANNED USE: grab samples		BORING DEPTH: 25 feet		BORING/WELL NO.: B-1			
				DRILLING CONTRACTOR: Clearheart Drilling		DRILL RIG TYPE: DR 10K		TEMP. WELL DEPTH: 25 feet		BORING DIAMETER: 4 inch			
				DRILL RIG OPERATOR: Brian Redlinger		WELL MATERIAL: Sched. 40 PVC		FILTER PACK: N/A		SCREEN SLOT SIZE: 0.020 inch			
WELL SEAL: Well casing removed following sampling, boring abandoned with bentonite grout, gravel cap at surface to match surroundings													
WELL CONSTRUCTION DETAIL	SAMPLING			WATER LEVEL	DEPTH (FEET)	OVM READING (PPM)	ESTIMATED PERCENT			GRAPHIC LOG	SAMPLING METHOD: Split spoon with sampling tubes		
	BLOWS/6" INTERVAL	DRIVE	RECOVERY				ANALYTICAL	GRAVEL	SAND		FINES	MONITORING INSTRUMENT:	
												FIRST ENCOUNTERED WATER DEPTH:	
												STATIC WATER DEPTH - DATE: 16 feet bgs, 3:23 PM 7/19/1999	
	1,1,3			X	5		100				gravel fill material (GW)		
					6			70	30		Silty sand (SM), dark greenish black, low moisture old hydrocarbon odor		
					7		100				Fine-grained sand (SP), greenish brown, possible hydrocarbon odor, low moisture, unconsolidated		
					8								
					9								
	2,2,3			X	10						Silty sand (SM), green mottled to gray, old gas odor, moist		
					1		70	30					
					2								
					3								
					4								
	10,10,15			X	5		100				Fine-grained sand (SP), brown, gas odor, moist		
					6								
					7								
					8								
					9								
	10,12,12			X	20		100				Fine-grained sand (SP), greenish brown, gas odor, unconsolidated, wet		
					1								
					2								
					3								
					4								
	15, 50 for 5			X	5		100				Fine-grained sand (SP), greenish brown, faint gas odor, "beach sand", unconsolidated, wet		
					6								
					7								
					8								
					9								
					0								
NOTE: Slotted well casing left in hole overnight to allow for groundwater sampling													

CGI - FIELD EXPLORATORY SOIL BORING LOG

Project No. E-167

Sheet of

FIELD LOCATION OF BORING:				CLIENT/LOCATION: Pierson/McKinleyville		PLANNED USE: grab samples		BORING DEPTH: 24 feet		BORING/WELL NO.: B-2	
				DRILLING CONTRACTOR: Clearheart Drilling		DRILL RIG TYPE: DR 10K		TEMP. WELL DEPTH: 23 feet		BORING DIAMETER: 4 inch	
				DRILL RIG OPERATOR: Brian Redlinger		WELL MATERIAL: Sched. 40 PVC		FILTER PACK: N/A		SCREEN SLOT SIZE: 0.020 inch	
				WELL SEAL: Well casing removed following sampling, boring abandoned with bentonite grout, gravel cap at surface to match surroundings							
WELL CONSTRUCTION DETAIL	SAMPLING			DEPTH (FEET)	OVM READING (PPM)	ESTIMATED PERCENT			GRAPHIC LOG	SAMPLING METHOD: Split spoon with sampling tubes	
	BLOWS/ INTERVAL	DRIVE	RECOVERY			ANALYTICAL	WATER LEVEL	GRAVEL		SAND	FINES
											FIRST ENCOUNTERED WATER DEPTH: 15.5 ft.
											STATIC WATER DEPTH - DATE: 14.5 feet bgs, 4:40 PM 7/19/1999
						100					gravel fill material (GW)
					1						
					2						
					3						
					4		70	30			Silt (ML), dark brown/black mud, low moisture organic soil odor
	3,4,4				5						
				X	6		100				Fine-grained sand (SP), pale brown, no hydrocarbon odor, low moisture, unconsolidated
					7						
					8						Clay (CH), green, plastic, hydrocarbon odor
					9						
	5,8,8			X	10						Fine-grained sand (SP), greenish brown, gas odor
					1						
					2						
					3						
					4						
	9,13,15			X	5		100				Fine-grained sand (SP), pale brown, strong gas odor 15 to 15.5 ft, unconsolidated, wet
					6						
					7						
					8						
					9						
	25,25,15			X	20		100				Fine-grained sand (SP), brown, faint gas odor, "beach sand", unconsolidated, wet
					1						
					2						
					3		100				Fine-grained sand (SP), dark greenish gray, no odor, saturated
	15,35,40			X	4						
					5						
					6						
					7						
					8						
					9						
					0						
											NOTE: Slotted well casing left in hole overnight to allow groundwater sampling

FINISH 4:30

3:45

DRILLING/WELL CONSTRUCTION: START

LOGGED BY: K. Thiessen

APPROVED BY:

CGI - FIELD EXPLORATORY SOIL BORING LOG

Project No. E-167

Sheet of

FIELD LOCATION OF BORING:				CLIENT/LOCATION: Pierson/McKinleyville		PLANNED USE: grab samples		BORING DEPTH: 24 feet		BORING/WELL NO.: B-3	
				DRILLING CONTRACTOR: Clearheart Drilling		DRILL RIG TYPE: DR 10K		TEMP. WELL DEPTH: 23 feet		BORING DIAMETER: 4 inch	
				DRILL RIG OPERATOR: Brian Redlinger		WELL MATERIAL: Sched. 40 PVC		FILTER PACK: N/A		SCREEN SLOT SIZE: 0.020 inch	
WELL SEAL: Well casing removed following sampling, boring abandoned with bentonite grout, gravel cap at surface to match surroundings											
WELL CONSTRUCTION DETAIL	SAMPLING			WATER LEVEL	DEPTH (FEET)	OVM READING (PPM)	ESTIMATED PERCENT			GRAPHIC LOG	SAMPLING METHOD: Split spoon with sampling tubes
	BLOWS/6' INTERVAL	DRIVE	RECOVERY				ANALYTICAL	GRAVEL	SAND		
					1		100				
					2						
					3						
					4		70	30			
					5						
					6		100				
					7						
					8		100				
					9						
	2,4,5			X	10						
					1						
					2						
					3						
					4						
	7,11,15			X	5		100				
					6						
					7						
					8						
					9						
	8,15,15			X	20		100				
					1						
					2						
					3		100				
	15,12,15			X	4						
					5						
					6						
					7						
					8						
					9						
					0						

gravel fill material (GW)

Fine-grained sand (Sm), pale brown, no hydrocarbon odor, low moisture, unconsolidated

Silty sand (SP), mottled green & orange, no odor, moist

Fine-grained sand (SP), brown, faint gas odor, "beach sand", bioturbated, unconsolidated, wet

Fine-grained sand (SP), brown, faint gas odor, unconsolidated, wet

Fine-grained sand (SP), dark gray-green, faint gas odor, unconsolidated, wet

NOTE: Slotted well casing left in hole overnight to allow groundwater sampling

APPROVED BY: _____ LOGGED BY: K. Thiessen DRILLING/WELL CONSTRUCTION: START 4:57 FINISH 5:45

Project No. E167

Sheet 3 of 3

Sheet 3 of 3

FIELD LOCATION OF BORING:

MW1

Pickett

CLIENT/LOCATION: **PICO/Mckinleyville**

DRILLING CONTRACTOR: **Clearheart**

DRILL RIG OPERATOR:

WELL SEAL:

PLANNED USE: **Monitoring well**

DRILL RIG TYPE: **DR10K**

WELL MATERIAL: **pvc**

BORING DEPTH: **25'**

WELL DEPTH: **25'**

FILTER PACK: **2/12**

BORING/WELL NO.: **MW-1**

BORING DIAMETER: **8"**

SCREEN SLOT SIZE: **0.020"**

WELL CONSTRUCTION DETAIL

SAMPLING

WATER LEVEL

DEPTH (FEET)

OVM READING (PPM)

ESTIMATED PERCENT

GRAVEL

SAND

FINES

GRAPHIC LOG

SAMPLING METHOD: **split spoon**

MONITORING INSTRUMENT:

FIRST ENCOUNTERED WATER DEPTH: **14'**

STATIC WATER DEPTH - DATE:

WELL CONSTRUCTION DETAIL	SAMPLING	WATER LEVEL	DEPTH (FEET)	OVM READING (PPM)	ESTIMATED PERCENT	GRAVEL	SAND	FINES	GRAPHIC LOG	DESCRIPTION
BLOWS/6" INTERVAL	DRIVE	RECOVERY								
			1							Gravel (GW)
			2							
			3							
			4							
			5							
			6							
			7							
			8							
			9							
10/5/5		X	0			80	20			
			1							
			2							
			3							
			4							
5/7/7		X	5			80	20			
			6							
			7							
			8							
			9							
15/25/25		X	0			90	10			Wet FG sand(SW), no odor, Greenish-gray
			1							
			2							
			3							
			4							
15/50/5		X	5							
			6							
			7							
			8							
			9							
			0							

APPROVED BY:

Leach

DRILLING/WELL CONSTRUCTION: START

11:00

FINISH

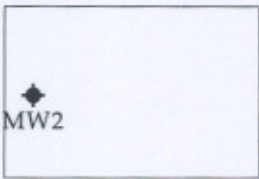
00:30

CGI - FIELD EXPLORATORY SOIL BORING LOG

Project No. E167

Sheet 2 of 3

3:30
1:25
FINISH
DRILLING/WELL CONSTRUCTION: START
Leach
LOGGED BY:
APPROVED BY:

FIELD LOCATION OF BORING:		CLIENT/LOCATION:		PLANNED USE:	BORING DEPTH:	BORING/WELL NO.:	
<div style="text-align: center;">  <p>MW2</p> <p>Central Pickett</p> </div>		PICO/Mckinleyville		Monitoring well	25'	MW-2	
		DRILLING CONTRACTOR:		DRILL RIG TYPE:	WELL DEPTH:	BORING DIAMETER:	
		Clearheart		DR10K	25'	8"	
		DRILL RIG OPERATOR:		WELL MATERIAL:	FILTER PACK:	SCREEN SLOT SIZE:	
				pvc	2/12	0.020"	
WELL SEAL:							
Bentonite / Cement							
SAMPLING		ESTIMATED PERCENT		SAMPLING METHOD: split spoon			
WELL CONSTRUCTION DETAIL		OVM READING (PPM)		MONITORING INSTRUMENT:			
BLOWS/6" INTERVAL	DRIVE RECOVERY ANALYTICAL	GRAVEL	SAND	FINES	FIRST ENCOUNTERED WATER DEPTH: 15'		
WATER LEVEL		GRAPHIC LOG		STATIC WATER DEPTH - DATE:			
DEPTH (FEET)							
1				Gravel (GW)			
2				Lt. Brown red sandy loam (SM), no odor mottled orange			
3		80		20			
4							
5							
6		80		20			
7				Lt. gray clay (cl)			
8							
9							
10		80		20	FG Sand (SW), Buff brown, no odor, minor mottling to orange, unconsolidated beach sand, wet		
1							
2							
3							
4							
5		80		20	Lt. gray clay (cl), wet, no odor		
6							
7							
8							
9							
10		90		10	Wet FG sand(SW), no odor,gray		
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							

CGI - FIELD EXPLORATORY SOIL BORING LOG

Project No. E167

Sheet 1 of 3

3:30

FINISH

1:25

DRILLING/WELL CONSTRUCTION: START

LOGGED BY: Thiessen

APPROVED BY:

FIELD LOCATION OF BORING:				CLIENT/LOCATION:				PLANNED USE:		BORING DEPTH:		BORING/WELL NO.:	
<div style="text-align: center;"> <p>MW3</p> <p>Pickett</p> <p>Central</p> </div>				PICO/Mckinleyville				Monitoring well		25'		MW-3	
				DRILLING CONTRACTOR:				DRILL RIG TYPE:		WELL DEPTH:		BORING DIAMETER:	
				Clearheart				DR10K		25'		8"	
				DRILL RIG OPERATOR:				WELL MATERIAL:		FILTER PACK:		SCREEN SLOT SIZE:	
				pvc		2/12		0.020"					
WELL SEAL:				Bentonite / Cement									
WELL CONSTRUCTION DETAIL		SAMPLING		DEPTH (FEET)	OVM READING (PPM)	ESTIMATED PERCENT			GRAPHIC LOG	SAMPLING METHOD: split spoon			
		BLOWS/6" INTERVAL	DRIVE			RECOVERY	ANALYTICAL	WATER LEVEL		GRAVEL	SAND	FINES	MONITORING INSTRUMENT:
										FIRST ENCOUNTERED WATER DEPTH: 15'			
										STATIC WATER DEPTH - DATE:			
										Gravel (GW)			
										Dark brown, dry silty sand (SM)			
										FG Sand (SW), Buff brown, no odor, minor mottling to orange, unconsolidated beach sand, low moisture			
										Silty FG sand (SM), limited moisture, no odor, greenish brown, Unconsolidated			
										Wet silty FG sand (SM), pale green/brown, mottling to brown, inorganic, no odor			
										Wet FG sand, orange mottling, no odor, green brown			